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IRON IN COLORADO.

Messrs. SCOTT & READ, mining engineers, of Denver, recently wrote to the *Times* of that city a letter urging the importance to Colorado of a local iron manufacture. The letter is forcible in expression, and makes out a good case for iron as the most useful and important of metals. But more than this is necessary to convince capitalists that blast-furnaces can be profitably run in that region. If these intelligent gentlemen will go further, and prepare careful estimates of the cost of making iron at Denver, they will throw needed light on an interesting question. But before this can be done, the locality and quality of available ore-supplies must be ascertained; and the suitable fuel must be indicated. On these all-important heads, Messrs. SCOTT & READ merely say:

"It may be laid down as an axiom, that, where iron and coal occur in the same district, and that district a large consumer of iron-made goods imported from a great distance, the erection of blast-furnaces is not only essential to the vitality of the country, but will make ample returns to the capital employed. A moment's fair and unbiased examination of the geographical position of Denver, the close proximity of iron and coal to it, and the rapid evolution of industry exhibited throughout the State, must convince skeptics of the feasibility of Denver's lighting her own furnaces. Once this can be brought home in the right quarters, the large floating loanable capital of the East will gravitate toward the Western industries."

We should be glad of further information on the matters thus sweepingly discussed. "The proximity of coal" sounds well; but the proximity of most Colorado coals is not specially helpful to a blast-furnace. Not even those of Cañon City and Trinidad, we fear, could be used for smelting iron; and if there is any proof that the coke of these localities will "carry burden" in the blast-furnaces, we have still to see it. If a suitable fuel can be found, and rich, pure ores and fluxes are fortunately in proximity to it—why, then it becomes a question whether the iron-manufacture can compete with other investments in Colorado; certainty and permanency of profit being, of course, allowed to counterbalance, to a reasonable extent, the higher rates which some enterprises would pay for a shorter time and at greater risk. We do not think the immediate prospect very favorable to iron, in comparison; but we have no wish to discourage the gentlemen who have suggested the subject. On the contrary, we hope they will go on and collect the necessary data for answering the question they have raised. *

MINING STOCKS IN NEW YORK.

We copy in another column nearly the whole of an article from the *Republic*, of San Francisco, in which the impending removal from that city to New York of the center of gravity of American gold and silver mining enterprise is discussed with a good deal of judgment and vivacity. We agree with the *Republic* in many of the views it expresses; but we feel bound to confess that other authorities do not take so gloomy a view of the prospects of the San Francisco exchange. To our apprehension, however, the tendency which the *Republic* points out is plain. It is indicated by numerous signs, not the least significant of which is the appearance of veteran California mining operators in New York. But whether San Francisco is to lose its rank as a head-quarters of gold and silver mining or not, it is certain that an intense activity in mining enterprises will soon be evident in New York.

Apropos of this, the *Iron Age* utters a word of well-meant caution to inexperienced investors. The article of our contemporary is so excellent in purpose and so judicious in tone that we regret to criticise it at all. But in choosing an illustration to point its moral withal, the *Iron Age* has fallen into an error of which the most inexperienced investor would scarcely be guilty. Since a distinguished pulpit orator, in attempting to depict the wickedness of nocturnal New York, succeeded in demonstrating only his own complete innocence, there has scarcely been a more illustrious case of the kind.

The passage to which we allude is that in which our contemporary holds up as an example of reckless inflation of values the Little Pittsburg Mining Company. That property, it says in substance, was shown by a careful report to contain, in one third of its area, about three million dollars. Hence, it was worth not more than nine millions. Yet it was put on the market at twenty millions; and the public is thus expected to pay eleven millions for mere speculative chances! The writer of this censure did not suspect that he was puffing the property in question more extravagantly than any of its sanguine owners. The facts are notorious that, upon the report referred to, one quarter of the stock was taken at the rate of four millions for the whole; another quarter has been selling (or is perhaps already sold) at the rate of five millions; and we know of no sales at higher figures. It is indeed said that, on the strength of the discovery of a lower zone of rich ore immediately upon the underlying limestone, and of developments to the southward in the New Discovery mine and in other parts of the company's claims (not reckoned in the estimate of value made by the experts), the stock is now held at $27.50 per share; which would be $5,500,000 for the whole. The new developments we believe to be genuine and valuable; but we have no personal knowledge of their effect on the stock. If it were openly on the market and sold at the exchange, they would undoubtedly cause a sharp advance in its price; but stock in private hands is not so sensitive. Meanwhile, the purchasers at $20 or $25 have received monthly dividends of 2½ and 2 per cent respectively, paid thus far mainly from new drifts and cross-cuts exclusively, and not from the definite reserves of the principal mine. They have no reason to complain of their bargain.

The placing of the nominal capital of this company at twenty millions is certainly not to our taste. Except in the event of a victory in the courts, giving to the company the right to follow its vein beyond the eastern side-lines of its claims, we see no prospect that the property can ever be fairly worth that large sum. But the public is not asked to buy it at any such rate. The number of shares and the market price per share determine the rate at which investments are made; and we heartily join the *Iron Age* in advising all persons who do not comprehend this principle to abstain from buying stock.

To our mind, if the capital had been put at $5,000,000, and the stock were now, in consequence, above par, the thing would look better, and all parties would be as well off as they are. But one result of the large capital, which we had not foreseen, almost shakes our convictions. It has set all the newspapers talking, and given the company a huge amount of free advertising. To get the multitudinous press shouting, "Shame! they pretend their mine is worth twenty millions, and it is not worth more than nine!" must be a heavy lift to a "syndicate" at placing the stock at the rate of five!

THE UTAH GOLD MINES.

The low price of lead and silver during the past year rendered many of the Utah mines unprofitable, and turned attention to the gold-bearing veins known to exist in the Bingham Cañon. At the present time, these are the mining sensation of Utah, though whether they will "pan out" better than some of its former sensations is yet an open question.

Bingham Cañon has long been the field of placer-mining on a small scale, and considerable amounts of the precious metal were obtained in times gone by, from its glittering sands. That source of supply was, however, uncertain and rarely very rich; so that, when the silver-lead ores of the Old Telegraph, the Jordan, and a host of other once-famous mines were found in such great abundance, and lead commanded $70@$80 per ton, and silver $1.20 per ounce, the limited placer-deposits were abandoned, and there was no serious effort to find and work the veins

from which the precious "float" had come. With the decline in lead and silver, gold has again come to the front; and though the placers attract but little attention, being mostly abandoned to the frugal industry of Italians, the working of the auriferous quartz from which the placer-gold comes is now an established industry which commands great attention. The gold occurs in a porous, and generally very soft and decomposed iron-stained quartz rock, which is still, in the lower workings, impregnated with iron pyrites. The gold was undoubtedly originally contained chiefly in pyrites, and the oxidation of these has left the rock porous and honeycombed and the gold "free." The decomposition has gone to a very considerable depth, the veins cutting across ridges rising nearly a thousand feet above drainage; but the pyrites are not wholly decomposed down to this water-level, but, where protected by clay selvages, they are found in parts of the vein, especially along the foot-wall, only a few hundred feet below the surface. The veins are of immense size, thirty, fifty, and sixty feet being worked in some places; and there appear to be several beds of this gold-bearing pyritic quartz, separated by beds of barren quartzite. The hanging-wall of at least one vein is porphyry, though the whole question as to the number of beds and their relations to the quartzite and porphyry are still undetermined, and, indeed, are at the present time forming the subject of litigation. The course of the gold-bearing beds is northeast and southwest, and then dip northwest, which, conforming to that of the quartzite, is from 40 to 60 degrees.

The gold-bearing veins or beds have been opened at a number of points on the hills of the Bingham Cañon, and seem to form a system of veins parallel with and to the north of the lead-bearing veins, though in a few cases the gold veins have been found to contain lead also near the surface.

There is but one mill (the Stewart) in the district that has as yet treated these ores, and the information afforded by it is neither full nor altogether satisfactory. The ores are said to "assay" $15 to $16 per ton, as an average of 30 to 40 feet thickness of vein; but, as far as can be learned, the mill saves only $6 to $8 per ton, and that from ore apparently quite free from sulphur. The mill contains 20 stamps, 10 of which are 800-lb., and 10 are 650-lb. They fall 6 inches, and make about 90 drops per minute; and crush about 2½ tons to the head per day. The amalgamation is effected in running over plates; but, if the information given us be correct, it is extremely imperfect. As far as can be judged from the appearance of the ore, the gold should not be difficult to save; but when the workings attain some depth, no doubt pyrites will predominate, and it will be impossible to save the gold without roasting, which would itself cause a loss of gold, and be expensive. So that it seems that the large masses of oxidized ore found near the surface, and possibly even down to the water-level, which would be several hundred feet deep, will constitute the chief value of these properties. A special examination of the most careful character can alone determine the value of any particular property.

From what we have seen and learned, it seems probable that certain of these gold properties may be of very considerable value, though it is very doubtful if any of them will be found to contain much profit below water-level.

The chief advantages possessed by these Bingham gold mines is the marketable facility with which the ores can be mined and milled. Probably $5 a ton would more than pay the entire cost; so that if even $10 per ton were obtained, the large amount which a mill can crush daily would make them of considerable value. A more perfect system of saving the gold than that now in use must, however, be adopted.

GREAT BRITAIN'S EXPORTS OF RAILWAY IRON.

We are indebted to the circular of Messrs. W. W. & C. Richardson for the following statistics:

To	Month ending June 30.			Six months ending June 30.		
	1877.	1878.	1879.	1877.	1878.	1879.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
United States	19	312	4,834	2,502	464	7,738
Russia	16,505	13,195	4,271	4,535	26,191	14,900
Turkey	.....	.....	8	39	7	754
British India	6,892	7,349	6,811	40,651	59,115	53,158
British North America	8,312	7,364	7,903	17,487	17,947	19,824
Egypt	30	12	2	245	2,380	1,332
Australia	9,791	5,214	3,011	38,116	43,284	37,783
Brazil	2,758	1,816	3,535	12,205	9,821	20,056
Holland	6	22	801	615	59	1,912
Spain and Canaries	2,627	3,607	1,367	11,472	13,371	7,950
Sweden and Norway	19,400	1,477	810	27,913	19,012	10,310
Chili	.....	208	11	578	553	616
Denmark	26	1,179	1,354	3,570	3,652	1,429
Peru	600	83	325	697	2,123	1,856
France	.....	8	.....	17	68	67
Germany	1,847	789	555	5,743	25,168	2,413
Belgium	.....	.....	.....	55	111	.....
Italy	1,899	5,505	2,323	5,061	10,104	10,137
Other countries	9,192	3,058	3,071	14,979	14,375	17,364
Total	63,970	51,198	40,992	228,480	247,805	209,599
Estimated total of iron rails	22,081	10,934	1,264	89,297	76,956	19,268
" " " steel rails	34,264	34,674	33,689	106,253	126,457	151,759
Total of rails	56,345	45,608	34,953	195,550	203,413	171,027

It will be observed that the exports to this country greatly increased last month, being nearly double what they were during the first six months of 1877, and more than ten times as great as during the first six months of last year. This marked increase is probably brought about by the Vanderbilt purchase, noted several months ago. The total shipments for the first half of this year to all countries make a discouraging comparison with the same periods of last year and 1877, when the shipments were, respectively, 38,206 and 18,881 tons greater. The shipments to Russia show considerable falling off as compared with last year, but still a very favorable increase as compared with 1877. British India continues to be Great Britain's best customer, but shows a falling off as compared with last year. British North America shows a fair increase. The business with Australia has been less than for two years past. Brazil shows a marked increase. Sweden and Norway show a falling off of more than 60 per cent during two years; while Germany has taken, to July 1st, but 2413 tons, as compared with 25,168 tons to same date last year.

Despite the falling off in the shipments of all kinds of railroad iron, and particularly of iron rails, there has been an increase in the exports of steel rails during the past two years amounting to nearly 50 per cent.

NEW PUBLICATIONS.

SECOND GEOLOGICAL SURVEY OF PENNSYLVANIA. VOL. HHHH. 1877. *Report of Progress in Indiana County, by* W. G. PLATT. *With a Colored Map of the County.* Harrisburg, 1878.

The importance of the field covered by this volume is evident upon consideration of the fact that Indiana County occupies the center of the bituminous coal-field of Western Pennsylvania, and the mutual relations of the basins of Jefferson, Clearfield, Cambria, Westmoreland, and Armstrong counties can not be thoroughly understood until their stratigraphy has been traced across this area, which they surround. The county itself presents less favorable conditions for immediate development industrially than some of its neighbors, though its resources are by no means contemptible. Small patches of the Upper Productive Coal Measures occur in its southwest quarter, near its boundaries, and the rest of the county west of Chestnut Ridge is occupied on the surface by the Lower Barren Measures, under which lie the Lower Productive Measures, for the most part beneath water-level, but here and there lifted along the anticlinals, so as to become for short distances accessible without deep shafts. East of Chestnut Ridge, on the other hand, the entire Lower Productive series is exposed in many hill-sides, and rocks of that series cover the greater part of the area of this part of the county. There is here an immense supply both of coal and of limestone; but no workable deposits of iron ore have yet been discovered; and the resources of Indiana County in the matter of fuel must wait for utilization upon a large scale until those of other regions, more favorably situated and not less abundantly supplied, shall have been exploited. Fire-clays and good building-stone (sandstone) abound; petroleum may hereafter be found, but at considerable depths (500 to 2000 feet); natural gas occurs in small quantities at a few localities, under circumstances which deprive it of special importance either in itself or as an indication of oil.

The county presents a series of seven anticlinal and six cynclinal folds of the strata, or, as Mr. PLATT well expresses it, "broad rock-waves, the crests of which run nearly parallel to each other," their direction being northeast and southwest. The survey of ROGERS appears to have recognized but four anticlinal axes, the first of which, counting from the south east, was the Laurel Hill, and the second the Chestnut Ridge anticlinal. Mr. PLATT finds a minor axis in the Ligonier basin, between these two; and between the old Indiana and the Fourth axis of ROGERS he intercalates two more, in the Westmoreland gas-coal basin. His detailed description of the different basins, illustrated with numerous local sections, gives evidence of careful and intelligent field-work; and the colored geological map which completes the volume is a fair summary of the features of the surface geology—which, minus the topography, presents a rather monotonous aspect, the range of the formations exposed being very limited.

In our examination of the successive volumes of the present Pennsylvania survey, we have been led to attach an ever-increasing value to the prefaces of Prof. LESLEY. They usually contain reviews of the work of the Assistant Geologists, so much better than any that a mere journalist can prepare, that we are tempted to quote them, in lieu of attempting to express opinions of our own. But beyond and above this, they abound in suggestive discussions of important questions in dynamical geology, which must be ranked among the most noteworthy contributions to the literature of that science. We are sometimes inclined to complain that they are so very suggestive and so little decisive. If LESLEY, particularly in the field which he has made peculiarly his own, may not be dogmatic, then who may dare to hold and defend any hypothesis as to the history of the coal formations? But a second thought convinces us that, on many grounds, Prof. LESLEY is right. His modesty is as admirable as it is unusual, and his conservatism as wise as it is tantalizing.

In the present case, after pointing out the important service rendered by Mr. PLATT in the demonstration of a fundamental error of earlier sur-

veys, based upon the assumed identification of a single widely-extended limestone horizon in the lower coal measures (where there are really several such horizons), and after indicating both the complete and the yet incomplete results of this and other discoveries of the present survey in the bituminous coal-field, Prof. LESLEY proceeds to consider two most interesting theoretical questions, for the final solution of which he apparently deems inadequate the facts thus far collected by geologists. The first is the origin of cannel coal; and the second, arising out of the first, is the theory of alternate changes in the relative level of land and sea.

The phenomena relative to cannel coal which require explanation are chiefly two. First, the nature of the coal itself as originally a carbonaceous mud-deposit, formed by a gentle and continuous wash, either of utterly decomposed land-plants or of non-fibrous water-plants. Secondly, the occurrence of the coal in irregular, local basins, *not hollowed by erosion.* We quote in full his remarks in this connection:

"That these basins were water-ways or pools irregularly scattered over the field occupied by a regular coal-bed, is evident from many observations in various parts of the coal-fields of the United States.

"That they were local, is no longer open to doubt. But there were more of them existing at once at certain horizons of the coal measures than at others.

"That they are not filled-up vales or hollows of *erosion*, is manifest; for they do not cut into a subjacent coal-bed (like ordinary lagoon faults), but only bend it down, so to speak, below its normal level, leaving to it its full or regular thickness. Nor are they accompanied by any of the well-known evidences and relics of current waters. Every thing about them betokens a quiet, peaceful condition. The mud is fine; the slates are laminated and regular; the roof is soft. The pool was one of almost standing water.

"What, then, caused the depression? How could a dead-level bituminous coal-bed get a local dip of five or ten degrees at the sides of such an area of depression?

"Many years ago, Mr. Lesquereux described the *floating* sheets of vegetation, strong enough to support trees, now growing in the Dismal Swamp, and inferred that a similar condition of things existed in local portions of a swamp vegetation in the Coal Era. When the forest becomes too heavy to be borne, the floating mass sinks to the bottom, and the trees perish standing, being submerged for many feet or yards of their boles. Sooner or later, they are overthrown by the wind. Fine mud then gradually collects over their prostrate bodies and over the dead vegetable raft which had so long sustained them in the air, and which now begins its chemical history, its metamorphosis into a future coal-bed.

"Existing peat-bogs enjoy a vigorous growth on hill-slopes of several degrees inclination, like Ireland, where the air is constantly saturated with moisture. They push out from the edges of small ponds, until they cover them and subsequently fill them. If the carboniferous plain consisted of broad low-lands and shallow ponds, through which rivers meandered, the vegetation of each coal-bed must have conformed to this slightly accidented, generally horizontal, but yet dimpled, surface.

"If this surface were elevated much above sea-level, we should find no marine fossils; small rivers would have been numerous, and large rivers few, but their channels boldly marked and deep. And we should have had but one coal-bed.

"If the whole plain stood at any one time at sea-level, its vast expanse (known to have been 1000 miles long by at least 300 miles, and probably 1000 miles, wide) must have kept the real ocean at a great distance from its interior regions, and consequently most of its waters, fed by daily continental rains, must have been fresh.

"Now, any local dips, if such existed, measuring even 1° (to say nothing of 5°) in such an area, could not have been caused by movements in the earth's crust considered as a whole. This may be made evident in a moment by constructing a diagram to show such dimple as that described on page 228 of this report, supported by 10,000 feet of Paleozoic formations underneath it. No true 'subsidence,' as referable to the figure of the globe, is here conceivable. To find 'subsidences' in this sense, we must seek for them in the long, straight basins between the great anticlinals.

"Nor may local subsidences, as due to the chemical dissolution of areas of the mountain limestone, or of the Devonian and Silurian limestones, be less out of the question: 1st, because of the absence of the mountain limestone from the underground of Indiana County; 2d, because of the enormous depth of the others. For, even if any waters could dissolve them at that depth, the roofs of any, even the most gigantic, caverns in them would, at the height of the coal measures, stand firm forever. I have elsewhere shown my reasons for believing that the erosion of the Appalachian valleys, and of the blue-grass country of Kentucky and Tennessee, and of the Northern lakes, can only be explained by the chemical solution of the great limestone formations. But I have also described the process as going on only near their outcrops, constantly receding from the axes of anticlinals. Such a process would be inconceivable as occurring under a horizontal covering of coal-measures. Therefore, any 'cavern theory' for such irregularities in the horizontality of our coal-beds must fail to afford us the desired explanation.

"The subsidence of a float of vegetation to the bottom of a pool, when the water could no longer support it, may, perhaps, account for most of the cases recorded or observed. Then, after the water was freed from its covering, streams from the surrounding peat-bog and forest might bring in such a quantity of macerated vegetable matter as would suffice, in combination with a growth of genuine water-plants, to explain the black slate roof, so characteristic of our coal-beds, and, in exceptional cases (or under exceptional general conditions of which we know little), our local deposits of cannel.

"The subject is certainly not thus freed from all its difficulties, but we may feel that we thus obtain a reasonable hypothesis for further investigation. It is very difficult to get at the information which we want respecting these curious deposits. Common cannel is seldom a marketable mineral; and mining operations, when they are pushed at all into these deposits, are economically practicable only in the center of a limited area, where the bed is thickest. The gangways invariably stop before reaching its edges, just when we are watching with the most interest; namely, at such distances from the center where the bed becomes too thin to work to a profit. We know, therefore, almost nothing of the nature of the edges of a cannel coal-bed; and are left in the dark as to its side connections with the bituminous coal-bed on which it often rests. Natural outcrops exist, and would give us this information just as well as underground drifts; but these natural exposures of the knife-edge termination of a cannel-bed are covered by soil, and are not accounted worthy of exploration by those who contemplate mining.

"To pursue the subject one step further: it is easy to see how the ponds or pools suggested above would get filled up. But it is a standing puzzle to devise an acceptable hypothesis for the submergence of a continental plain of coal vegetation to a depth of, say, 50 feet below sea-level; for this seems to be a necessary preliminary condition for the production of a second coal-bed overspreading the first at that height. It is still more troublesome to imagine rightly the cessation of such submergence at a fixed point, and for a time sufficiently long to permit the growth of such second bed; and then the repetition or continuation of the general subsidence to produce the next rock interval up to the third coal; and so on, for all the intervals and all the beds of the Carboniferous age.

"If a depression of a large portion of the crust of the earth, with or without earthquake paroxysms, be imagined, as is commonly done, it is amazing to contemplate the regularity of such a movement over a large area, implied by a fact like this; namely, that a constant normal thickness of 300′ for the productive coal measures holds good over eight or ten counties in Western Pennsylvania.

"Yet, this 'slow-depression' theory has too many good arguments and apt uses to be easily rejected. We see such movements going on at the present day, and they may be observed, and have been actually measured by good observers, on many of the existing sea-coasts; no doubt accompanied by slow changes of level of the inland country, and also of the bed of the ocean, which our instruments of altitude and sounding are not fine enough to detect. They are only visible by traditional water-marks along the coast.

"The theory of subsidence during the Coal age allies itself, also, with the great fact of the violent, although, perhaps, tolerably slow, elevation of the United States, and other countries, far above the sea-level, at the close of the Coal age. In this, we have an exaggerated reverse *upward* movement to what had been before a *downward* movement, not only during the Carboniferous but during the long-preceding Devonian and Silurian ages. Without this, we can not guess how from 20,000 to 40,000 feet of Paleozoic sediments could have found sea-room to be deposited; especially seeing that some of them were evidently deposited in very shallow water; exhibiting, as they do, quasi oyster-beds, coral-reefs, reptile-tracks, and even rain-drops and wave-furrows.

"But it will be well to keep the attention alive to the possibility of another hypothesis, based upon the rise of a sea-level rather than upon a descent of ocean-bed. Geologists have been so engrossed by ideas springing from their familiarity with upward and downward earth-crust movements, that little study has been bestowed upon what must also have, in some manner or other, played an important *rôle* in geology: *the physical consequences of filling up a water-basin with mud, sand, coal, limestone, etc.*

"If such a basin be *closed*, then certainly, when foreign materials are introduced to fill it up, the level of water in it must rise in proportion to the deposits it receives; and the area of the basin must also be enlarged. This inevitable result can only be wanting in case the basin, however large, be open to the general sea. Whether the great original coal-basin (now subdivided by changes of the figure of the earth into separate coal-basins properly so-called) was open or shut to the sea, may be a question we can never answer. But it is a question to be asked; and any possible right answer must exercise an influence on the final theory of the origin of coal, with its thousand embarrassing side-issues.

"I have drawn a sharp distinction between basins closed from, and basins open to, the sea. But there really exists no such sharp distinction; for every cubic yard of materials abstracted from the upland, and deposited in Delaware Bay, tends to raise the level of all the oceans of the world by a fixed quantity.

"Considering the apparently large amount of such materials carried out to sea by all rivers, one might anticipate that this quantity, when known, might be a notable basis for a calculation startling enough in its results; for if, it amounted to but an inch a year, the sites of many of the great cities of the world would be under water in a few centuries from now. Yet their relative levels to the surface of the ocean seem to have remained constant for thousands of years. Let us, however, make the calculation and note the insignificant results.

"The water surface of the globe amounts to about 133,000,000 square miles. The Mississippi River pours into the sea 145½ cubic miles of water, holding ·0035 of its bulk as suspended sediment, and rolling, probably, a larger amount along its bottom. This would make an annual deposit of one cubic mile of sediment. Multiplying this by 50, to represent the annual contribution of twenty other very large rivers of the world, and hundreds of smaller rivers entering the oceans, we may suppose the total annual sediments of the globe to amount in bulk to 50 cubic miles.

"The annual rise of the sea-level due to such a deposit would measure 0·022″. In other words, it would require a little less than half a century to change the general level of the sea-water on the globe one inch; and during this lapse of time, movements of the crust might—and undoubtedly would—alter the relations of land and sea along the coast infinitely more, in either direction.

"It is evident, then, why geologists always ascribe such changes of relation to some alteration of the figure of the earth, and confine themselves to a study of earthquake phenomena to find some explanation of both secular and paroxysmal subsidences or elevations of such areas as that of the coal measures. Earthquakes testify to the fact that such movements are paroxysmal as well as secular; and the intervals between coal-beds seem to give us a measure both of the frequency and magnitude of such paroxysms in ancient times.

"It is a notion, common to geologists with all other men, that the ocean-level is an unchangeable datum. Any suspicion, or even any confident belief to the contrary, is too feeble, or seems too impracticable, to have weight or to claim careful consideration in the discussion of structural problems as they successively present themselves in the advance of our knowledge of earth areas.

"Nevertheless, the most elementary teaching of hydrostatics informs us that no movement of the earth-crust, no slightest alteration of the figure of the globe, can take place without some shortening or lengthening of the earth's radius, measured from its center to some point on the surface of the sea. That means some fall or some rise of our universal datum of land-height measurement. Let us take an instance.

"When South America emerged from the waves, the water which had been covering it transferred itself to all the open oceans, raising the sea-line upon all shores, and submerging a certain number of lowlands. But the amount by which this operation raised the general level must have depended upon the gross quantity of water thus transferred.

"The mean depth of ocean water under which South America lay in Tertiary times is unknown. If we suppose it to have been only 100 feet over 6,000,000 square miles, and the general ocean area of the world (as now), 133,000,000 square miles, then the general sea-level must have been raised $\frac{6\times100'}{133}$ = about *four and a half feet.* If, however, its mean depth was 2400′, then we must suppose a general rise of *one hundred feet.*

"This example will suffice to illustrate the absolute necessity of a change of sea level, but also the impossibility of any computation of the *quantity* of such change produced by any one of those great geological earth-movements to which we owe the appearance of land.

"A change of sea-level, however, must have often taken place in a reverse sense. The settling of belts of Pacific, Atlantic, Indian ocean-bottoms in past ages (of which atolls, etc., are the well-recognized monumental proofs) has in every case caused a drainage inward *toward such deepening parts of the ocean-bed* of the waters of all other parts of the globe; *lowering* the universal sea-coast line by some proportional quantity which, again, we can not calculate for want of specific data.

"There is, again, another method by which the actual sea-level has undoubtedly been changed in recent geological times, and perhaps repeatedly in the history of the globe; namely, by the abstraction of water from the sea to spread snow and ice-fields of great thickness and extent abroad upon the land. And this has been much insisted upon of late.

"Some years ago, when Mr. Agassiz first proclaimed his belief that the northern hemisphere was covered with a continuous glacier, the front end of which projected into Long Island Sound, and overtopped the highest peak of Mount Desert by at least 2000 feet, I estimated the height of the snow mass necessary for producing the supposed motion of this glacier at 20,000 feet at the pole; and that the abstraction of that amount of water from the sea would lower the sea-level over the whole globe about 600 feet.

"It is now generally allowed that no such universal ice cope ever existed, but only that certain large isolated areas of the continents were thus covered by ice.

Nevertheless, it is a proven fact that the highest mountains in Northern New Jersey and Eastern Pennsylvania were actually covered by a solid sheet of southward-moving ice of unknown thickness.

"The sea-level, therefore, certainly stood lower in the Glacial age than it does now; and it is evident that were all the snow-fields and glaciers still existing in Alpine regions, small as they are in comparison with those of the Glacial age, melted, their water would find its way into the sea, and slightly raise its general level.

"During the last season, the United States Fish Commission learned, through Mr. Warren Upham, whose researches in New Hampshire have cast so much new light on the nature of osars and other phenomena of the Glacial Drift, that late Tertiary beds stretch from Cape Cod to the Newfoundland banks, at depths varying from 300 to 1500 feet. These are probably a continuation, under water, of the beds of Southern New Jersey, Delaware, and Virginia.

"The shape of the New York harbor tide-way out at sea shows that the sea-surface level stood many hundred feet lower, at a comparatively recent time, than it does now.

"The dredgings of Count Pourtales for the Coast Survey in the southern gulf-stream waters have demonstrated the same fact a thousand miles farther down the coast.

"A still more striking example, and one directly bearing on our subject, is presented by facts noticed at the Bermuda Islands.

"Bermudas is an atoll, or annular coral reef, which has grown around the summit of a huge conical (perhaps volcanic) mountain mass, standing isolated in the Atlantic Ocean, the bed of which all around it is 15,000 feet deep. It is covered with vegetation growing but a few feet above the present sea-level. But a change of sea-level of at least 45 feet has been shown; for in excavating for the floating docks, the workmen, after passing down through rock, that far below low-water mark, came to a bed of peat, with stumps of cedar-trees standing erect as they grew—'conclusive proof * * * that the Bermudas have * * * sunk since they have been covered with a similar vegetation to their present one.'

"Most geologists will see in this striking instance of the formation of two successive coal-beds, separated by 45 to 50 feet of rock interval, a proof of the correctness of the theory of subsidence; for it must be granted as in the highest degree probable that, if the mountain of Bermudas *has* sunk, then the whole bed of the Atlantic has subsided, and thus we get something very analogous to the supposed sinking of the coal area in the Carboniferous age. For the relatively disproportionate *sizes* of the little mountain-top peat-bogs in the one case, and of the 100,000 square miles original area of the Pittsburg coal-bed in the other case, can have nothing to do with the argument, and may be left out of view.

"But, on the other hand, it is evident that a rise of 45 feet in the sea-level would equally well furnish an explanation of the facts observed in both cases; and in the case of the Bermudas, that rise of sea-level *might* find its explanation in the disappearance of the continental ice-covering at the close of the Glacial era.

"Here I willingly leave the subject, since my only object is to bring its various aspects to the attention of the members of the corps, to stimulate their inquiries, and prevent facts bearing on it from being overlooked in the prosecution of our survey."

NEW YORK MINING MARKET.

"Where the eagles flock, there is the prey." The concentrating of our great mining operators in New York seems indicative of the transfer of the center of stock speculations from San Francisco to that metropolis. The capitalists of that coast are not all in one city, but there can be but one center to give the market rates for any one species of property; and if that center is New York, the local boards of different cities will be governed by that. The field to draw from is so much greater, and capital is so much more abundant, so much less hampered by laws, agitation, and prejudice on the Atlantic border than in the confined limits of California, that the movement is a most natural one, and must be expected, however much it may be deplored.

Generally, however, the decadence of stock-gambling will not be deplored; for in many of its features it has been a curse to the country. But dealing in stocks implies the ownership of mines, and, however great the array some publishers make of the assessments, costs of mining, wasted labor, deserted towns, wild-cat mines, defaulting officials, suicides, mortgaged homesteads, bankruptcies, etc., etc., as against declared dividends, it is an indisputable fact that San Francisco owes by far the greater portion of its wealth and population to the mining interest. Had all the great yield of the mines been absorbed in expenses, even then the work would have been profitable to the country, as it would have been paying its countless millions for labor, imports, and manufactures, building up towns and cities, giving employment for teams, stages, and railroads, and doing more actual good to the country of its production than if obtained by slave labor, or cheap labor, or from bonanzas of extraordinary wealth, or by any management which would give a greater surplus of dividends, enriching a few, to be hoarded or carried to foreign countries to be invested or expended. It has been a false policy, extremely prejudicial to our country, to so persistently array assessments against dividends, and to attempt to divide and belittle the mining interest as contra-distinguished from the agricultural interest. This teaching has prejudiced the people; and we are to witness the result. Both interests are great, and both should be fostered. But mining has enriched San Francisco. Had we only the resource of agriculture, the foundries, machine-shops, powder-works, mills, and other great factories that employ thousands of workmen and give busy life to the city, would have had no existence, and the sites of our palace hotels would have been convenient localities for corrals where the ranchero could hitch his mustang, and take his siesta or his lodging in the hay.

The owning of mines here means the transaction of mining business here; also it implies the payment of dividends here, the handling and disbursements of treasure, the maintaining of offices and officers, the printing of mining reports, certificates, etc., the manufacture of mining machinery, and many other things; and if it brings stock-gambling, that is but a necessary evil, small in comparison to the incalculable good resulting from such ownership and control. But we do not anticipate a total loss of these businesses by the transfer of the central market to New York. Here will be a great center of manufacture and trade in mining supplies, wherever the gambling and official center may be. San Francisco has obtained such a foot-hold by its superior mining machinery, its excellent hotels, and healthful climate, super-fortified by its branching arms of railway specially constructed with a view to such strengthening, that it will forever command an important and profitable share of the trade of the mining regions. If we lose the excitement of the mining business, and much of its profits, we should be thankful for that energy and foresight, so insanely condemned, which have built the many railroads extending into the surrounding States and territories, thereby making them contributory to our wealth, and attaching them forever to our interests.—*The Republic, San Francisco, Cal.*

THE THOMAS DEPHOSPHORIZING PROCESS.

The following is the text of the specification forming part of Letters-Patent No. 216,910, dated June 24th, 1879, granted to Sidney Gilchrist Thomas, of the County of Surrey, England:

These improvements consist in effecting the removal of phosphorus from the metal of which steel may be made by adding to the molten metal in a converter or vessel having a calcareous or magnesian lining large quantities of basic material, whereby the phosphorus is caused to pass into and combine with a highly-basic calcareous slag, which, by this process, is produced and maintained during the operation by the Bessemer (or pneumatic) or Siemens-Martin, Siemens, Pernot, Ponsard, or similar steel-making processes.

In the above processes, as at present carried out, little or no phosphorus is removed either into the slag or otherwise.

In carrying out these improvements, the constant object is to produce a highly-basic calcareous slag, in which phosphorus may be retained, and by which removed. To effect this result, when the Bessemer process is employed, I use a basic calcareous or magnesian lining for the converter, and add to the metal in the converter such a quantity of lime and oxide of iron, or lime alone, as will insure the slag being highly basic and calcareous, particularly during the latter part of the blow. I find that the amount of silica in a slag in which it is desired to remove phosphorus to any considerable extent should not materially exceed twenty-five per cent, while, when a very phosphoretic iron is being treated, it is very desirable that the final slag should contain less than twenty per cent of silica. If more than thirty-three per cent of silica is present, little or no phosphorus will be removed. The slag must also contain a minimum of twenty per cent of lime and magnesia together, while it is desirable it should contain over thirty per cent.

The best results are obtained when the amount of slag is such that, after the whole of the phosphorus contained in the pig treated has been transferred to it, it will not contain more than about twelve to fourteen per cent of phosphoric acid. To obtain this result, a very large quantity of basic material must be added to the charge.

As a general rule, an amount equal to five times the weight of the silicon and phosphorus contained in the charge must be added. At least two thirds of this addition should consist of lime, or lime and magnesia. This addition may be made in the following manner: Before tapping the molten metal into the converter, I throw into the converter an amount of highly-heated, newly-burned lime about equal in weight to the silicon and phosphorus contained in the charge of pig to be operated on. If, however, on account of the coldness of the converter, or any other reason, there is reason to believe the metal will not blow hot enough, the amount of lime first thrown in may be reduced. The metal is then run in and blown in the usual way until sufficient heat has been developed to enable the final basic addition (as hereinafter described) to be made without prejudicially cooling the metal. When, in the judgment of the blower, this point has been reached, the vessel is turned down, and highly-heated lime in small pieces, with highly-heated or molten iron ore (which should be as non-siliceous as possible) is thrown in, in the proportion of two parts of lime to one of ore. The lime may, with advantage, be a magnesian lime.

The preferable mode of preparing this addition is to melt the lime or limestone with the ore, in a small basic-lined cupola or air-furnace, and add it in a molten state. A basic-lined furnace should also be used for melting the ore when the ore alone is added in a molten condition.

In order to prevent the ore, or ore-mixture, from "setting," it should be transferred very rapidly from the furnace in which it is melted to the converter, either by using a very short basic-lined runner, or by tapping into a basic-lined ladle, and so rapidly transferring it to the converter.

The basic addition should always be as hot as possible, and as free as possible from silica. The weight of this final basic addition should be about four times that of the silicon and phosphorus in the charge.

When the pig treated is high in silicon and manganese, and blows very hot, the whole of the basic addition may consist of lime very highly heated, and equal in weight to from four to five times the weight of the silicon and phosphorus in the charge. When lime alone is used, it may be either added in two separate additions, as before described, which I prefer, or it may be all added before the metal. I prefer the use of magnesian lime. I prefer, however, to make a part of the addition always consist of oxide of iron. I have obtained excellent results with my basic-slag system, when blowing very phosphoretic pig in a stationary converter with a low-pressure blast.

In carrying out the various open-hearth processes for the manufacture of steel and ingot-iron, it has hitherto been the practice to work with a siliceous slag containing not less than forty per cent of silica.

In carrying out my improvements in these processes, I find it necessary, in order to produce a highly-basic calcareous slag, not only to have the hearth lined with a basic calcareous or magnesian material, but to add very large quantities of lime and oxide of iron during the operation. The amount of this basic addition should be about the same as in the Bessemer converter, except that, in those open-hearth processes in which no blast is used to accelerate the decarbonization, a considerable additional amount of oxide of iron should be added to facilitate the oxidation of the phosphorus. In the Siemens or ore process, it is, of course, only necessary to add lime or limestone. The amount of lime added should be at least equal to from three to four times the weight of the silicon and phosphorus of the charge, besides enough to neutralize any silica contained in the ore added. About half the total amount of base to be added may be thrown on to the hearth with or before the charge, the remainder being added during the operation; or the whole of the basic addition may be thrown in with or before the charge. When there is plenty of gas in the furnace, it is preferable to add the lime as limestone, double as much limestone being, of course, added as there is lime needed. Magnesian lime or limestone may always be used instead of ordinary lime.

The proportions of silica and lime to be aimed at in the slag are the

same as in the Bessemer process, and the workmen should take samples of the slag from time to time, to ascertain that it has the proper earthy fracture.

In order to facilitate the production of a basic slag, the slag first produced may, if it have a siliceous character, be partly tapped off before fresh base is added.

In carrying out both the Bessemer process and the Siemens or other similar processes, I prefer to line the vessel or hearth with one of the basic linings, for which I am now making application for letters-patent; but other calcareous or magnesian linings may be used. I would point out that the production of a basic slag is only of importance when it is desired to remove phosphorus from the iron treated.

I am aware that it has been proposed to add small quantities of lime and of oxide of iron and other bodies to the contents of Bessemer converters, such converters having been in practice hitherto only lined with highly siliceous substances.

I am also aware that a few pounds of limestone are in practice sometimes added to the contents of the converter; but this is of no avail in producing a basic slag or for the elimination of phosphorus; and even when a basic lining is used, very large additions of base, principally calcareous, must be added, sometimes amounting to four hundred-weight for every ton of metal treated.

I am also aware that certain basic substances have been suggested as suitable for lining Bessemer converters and open-hearth furnaces, but, having proved unsuitable, have not been commercially employed.

I am also aware that in making iron by the blast-furnace, cupola, and puddling-furnace processes, dolomite has been added to the charge of ore and carbonaceous matter, in the expectation of dephosphorizing the metal, and that such furnaces may be fixed or fettled with dolomite, or a concrete of which it is an element. This use of dolomite has been extended only to iron-making, and is but preparatory to the pneumatic or open-hearth processes for treating metal to convert it into steel or ingot-iron. A lining of four parts of ore and one of dolomite, while serving well in a blast or like furnace, would not stand the high heat of the Siemens or Bessemer processes. It has been proposed to add dolomite in large quantities to blast and similar furnaces; but, practically, this would be covering the metal with an impenetrable mass of infusible matter, and dolomite so added in the Bessemer process, if uncalcined, would render the process a failure by reason of the driving off of the carbonic acid, too rapidly cooling the metal. Lime alone, not limestone, is effectual in the Bessemer process.

I am also aware that it is not new to line furnaces with a basic material composed of lime or magnesia, or a mixture of the two with or without oxide of iron.

I wish to point out that the addition of basic substances to a converter with a siliceous lining is followed by a rapid destruction of the lining, so that it is commercially impossible to obtain by this means a sufficiently basic slag to secure the removal of phosphorus to any advantageous extent, even when a large quantity of base is added. Nor can phosphorus be commercially removed by the use of basic linings, unless a very large quantity of basic material be added to the charge, so as to obtain economically a highly-basic slag such as I have described.

The simple use of any basic lining sufficiently durable to answer commercially will not suffice to remove phosphorus, as the wear of any lining which is sufficiently durable to answer commercially is insufficient to yield the necessary amount of earthy base.

I am also aware that iron ore (and sometimes also a little lime) is added to the charge in carrying out certain open-hearth processes, these processes being, as is well known in practice, always carried out on a siliceous hearth. This addition of ore and a small quantity of lime is not, however, made with the view of rendering the slag highly basic and calcareous; nor is this result ever obtained, owing both to the siliceous nature of the ordinary hearth and to the insufficient amount of lime added.

I wish also to point out that the removal of phosphorus in the pneumatic and open-hearth processes has always been the great desideratum in the manufacture of steel and ingot-iron, and that, until my invention, it has never been practically effected.

I do not claim the mere use of basic additions in either the Bessemer or open-hearth processess; but

What I do claim, and desire to secure by letters-patent, is—

1. In the dephosphorizing of iron, where highly-basic slag is produced in the Bessemer or open-hearth operations, the process of producing such slag, which consists in lining the converter or other vessel with calcareous or magnesian material, and adding to the molten metal therein basic material containing two thirds of lime, or lime and magnesia, and of a gross weight equal to about five times the weight of the silicon and phosphorus contained in the charge; the said basic material being divided, and a part added before tapping, and the remainder after this has been blown, or the whole quantity added at once, substantially as specified.

2. In the manufacture of steel or ingot-iron by the Bessemer (pneumatic) or open-hearth processes, the herein-described method of removing the phosphorus from the metal into the slag, consisting in melting the metal in a converter or vessel having a calcareous or magnesian lining, and adding to such molten metal, in the vessel so lined, a quantity or quantities of basic material, such as burnt lime, or a mixture of burnt lime and iron ore, equal to about five times the weight of the silicon and phosphorus in the pig, substantially as described.

The average annual value of foreign earthenware and china imported into this country, during the past six years was $4,746,800, or $1,005,080 in excess of last year's importations, valued at $3,741,720.

The advisability of establishing a pottery art-school in connection with the State Normal School at Trenton, is being taken into serious consideration at Trenton. The scheme is understood to be favored by General McClellan.

Among new combinations for lamps is a concave and convex reflector, both being adjustable relatively to the gas-burner, one distributing the light above, the other below. The light passes through an opening in the center of each, which opening also serves the purposes of ventilation.

THE PHELPS ORE-CRUSHER.

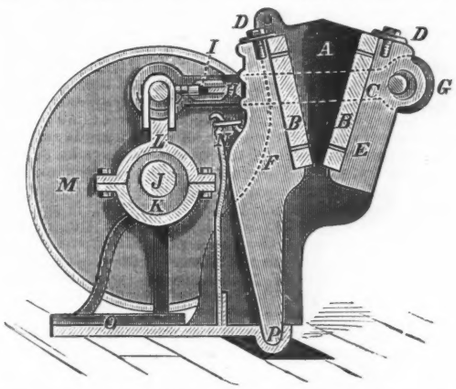
Modern mining demands many things of inventive skill. The difficult and almost inaccessible localities in which precious metals are now found, and the labor required in their reduction to merchantable shape, challenge daily the thought and ingenuity of the best engineering talent to produce appliances which will render profitable the business of mining and marketing the mineral riches of our hills and mountains. The cost, effectiveness, and durability of machinery to be employed in the different operations connected with the mining and treatment of ores is now a question of first importance to mine owners, or those contemplating mine operations, as on these conditions often depends the success or failure of the enterprise.

We present this week an illustration of Phelps's Little Giant Ore and Stone Crusher, for which several advantages more or less desirable are claimed.

The following letters indicate the several parts of this machine as represented in the cut: *A*, side-plates; *B B*, false crushing-plates; *C*, wrought-iron side-bars; *D D*, set-screws and plates; *E*, fixed jaw; *F*, reciprocating jaw; *G*, rock-shaft; *H*, toggle; *I*, liners or backing, by means of which the reciprocating jaw is adjusted to crush fine or coarse; *J*, main shaft; *K*, eccentric pitman; *L*, eccentric; *M*, fly-wheel; *N*, spring; *O*, pedestal; *P*, bearing of reciprocating jaw.

There are three qualities which enter into the construction of this crusher which combine to give it favor: 1st. Strength to withstand the great strain to which such machines are subjected; 2d. Lightness, which cheapens the manufacture and decreases the cost of transportation; and 3d. Durability, lessening the frequency of repairs and expense of providing new machines.

A simple and most powerful mechanical support is introduced into the



construction of the "Little Giant," which secures the first two-named qualities.

As will be seen, there are two wrought-iron side-bars *C*, which act as supports to either jaw, dividing the strain equally between them, dispensing entirely with any necessity for heavy castings, as in some other machines for similar uses; all the strength necessary to accomplish the heaviest work being obtained in this one by the use of comparatively light jaws and other parts.

This feature of lightness in the case of the smaller machines makes it possible to transport them to localities accessible only by trail, the heaviest part only weighing 340 pounds.

In this crusher the reciprocating jaw has a straight-line movement, perpendicular to a fixed plane, securing a simple direct pressure upon the material being crushed from either jaw; no grinding or rubbing motion, so destructive to jaw-plates, being allowed in its action. This result is attained by placing the hinge or bearing point *P* of the reciprocating jaw in a direct line with the face of the fixed jaw.

The whole construction of the machine is such as to insure its performing the best possible results. It can be speedily adjusted for different kinds of work. All its parts are interchangeable in the respective sizes made.

The improvements embodied in this new crusher are the suggestions of a long practical experience, and, together with the combined qualities of strength, lightness, simplicity, durability, efficiency, and cheapness, commend it to every practical man requiring machinery of its class. In an advertisement, elsewhere in our columns, may be found the different sizes, their capacities, weights, and prices. Messrs. Copeland & Bacon are the agents for the sale of this machine, at whose warehouse a stock may be seen, and from whose circulars further information may be had.

ANTHRACITE COAL TONNAGE.

We have received from Mr. JOHN H. JONES, Accountant, the following statement of anthracite coal tonnage for the month of June, 1879, compared with same period last year.

	June, 1879.	June, 1878.	Difference.	For year 1879.	For year 1878.	Difference, Inc.
Phila. & Reading RR..	669,960	692,318 D.	22,357	3,401,025	2,042,750	1,358,274
Lehigh Valley RR....	417,619	338,302 I.	79,317	2,014,840	1,456,943	557,897
Cent. RR. of N. J.....	326,208	187,563 I.	138,644	1,768,666	896,172	872,494
Del., Lack. & W. RR..	348,582	190,430 I.	158,152	1,702,900	889,822	813,077
Del. & Hud. Canal Co.	311,414	107,701 I.	203,713	1,337,282	870,144	467,138
Pennsylvania RR.....	166,982	138,853 I.	28,129	770,723	563,612	207,111
Pennsylvania Coal Co.	135,949	102,586 I.	33,363	678,238	417,308	260,930
Hillside C. & I. Co....	85,504	18,473 I.	67,031	214,314	112,496	101,818
Total.....	2,462,218	1,776,228 I.	685,990	11,887,988	7,249,247	4,638,739

The stock of coal on hand at tide-water shipping points, June 30th, 1879, was 432,167 tons; on May 31st, 512,605 tons; decrease, 80,438 tons.

SAN JUAN SILVER MINES.

It is some time now since I wrote you, the long hiatus being entirely due to the fact that we had assessment work to complete on five mines; but that being now over, I shall be able to furnish a "semi-occasional" letter, as heretofore, giving you, as nearly as I can, accurate descriptions of the best properties in our camp and those contiguous to it.

Among the first of these, ranks the Virginius. This mine, which has three extensions—the Monongahela, Blue Grass, and Raleigh—was discovered in the spring of 1876 by Colonel Blythe and Messrs. Sisson and Fielding. They were prospecting early in the year, and the vein cropped through the snow where they discovered it. Mr. Fielding said that, if they would give him the upper end of the lode, the others might take the rest. This was agreed to, and Mr. F. staked his Virginius 7500 feet up the mountain, the others taking theirs down. This is where he made a grand mistake; as the lower end of the Virginius claim being on a flat bench, and the Monongahela, at the upper end where it joins the Virginius, on a steep decline, it was impossible for them to gain any depth by drifting on Virginius ground, and had therefore to come down and drift through some 40 to 100 feet of Monongahela ground (which was done by an arrangement with the owners), in order to gain any depth on Virginius, the Monongahela, having thus, virtually, the key to the other property, unless, of course, the owners of the latter chose to sink on it and have to use pumping and hoisting machinery. The three gentlemen above-named also staked the Raleigh, another claim on the same vein, leaving a claim between this and the Monongahela, of which they were then unable to find the croppings; and not long afterward, Messrs. Lloyd Tevis and Mat Crowe dug down till they found the vein, and staked it as the "Blue Grass." Mr. Fielding subsequently sold his Virginius, then a mere prospect, to Mr. C. C. Alvord, of Denver, for $30,000.

During the winter of 1877-78, Mr. Alvord worked the mine on the present lower level with two men, Mr. Allum being in charge of the work; and on May 1st, 1878, Messrs. Allum and Lathrop took a lease on the mine from that date to July 1st of this year. They worked six to eight men all that spring, and in the summer increased their force to 15 and 18 men, including sorters; and during that season shipped to the smelter of the Norfolk & Ouray Company, and that of the Windham Company here, seventy-eight tons of ore, of which one lot of first grade milled 470 ounces silver to the ton; another batch of three tons, first grade, 340 ounces; and the rest 125 to 240 ounces. They then made preparations for a winter siege with a force of thirteen men and the cook, excavating in rock for a comfortable cabin at the entrance to the lower level, in which they were to work. In the old cabin, 700 feet lower down the mountain, they stored their provisions, and at the same point their wood, which had to be packed there on animals from the nearest timber, about a mile distant. By an ingenious contrivance of Mr. Lathrop's, a windlass was rigged at the lower level, with a pair of sleds, on which they ran up their provisions and wood over the snow as required, and also sent down their ore; some 500 tons of unsorted ore being sent down in this way to the lower cabin, where they had plenty of room to sort, and would not be troubled with spring surface water.

Their winter's output foots up about 100 tons of finely-sorted ore, about 30 tons of which is now down here, 16½ tons having been sampled, giving returns of 305 to 327 ounces silver to the ton, and 35 to 40 per cent lead.

The ore remaining to be sorted is quite as high grade, and with equal care in sorting will give equally good returns. I understand that they are also sorting a fancy grade which will mill from 600 to 800 ounces. At the time of the commencement of their lease, owing to deep snow, high price of supplies, want of good roads and tracks, and the general crude state of every thing in the camp, Messrs. Allum and Lathrop had difficulties to contend with which would have made most leasers "weaken;" but there seems to be something in the air here which braces men to deeds of "derring do" and makes them feel as if there were "no such word as fail." As a trifling instance of the difficulties one has to contend with occasionally, I may mention that, at the commencement of their lease, Mr. Lathrop had to get an iron wheelbarrow up to their mine, a distance of eight miles from Ouray, and for three miles of that distance sledded it over the snow on an old Norwegian snow-shoe, which he fortunately found on the trail; and it will give an idea of the difficulty of the undertaking when I mention the fact that the altitude of Ouray is 7350 feet above tide-water, and that of the Virginius lower level 12,300, by aneroid barometer. I would also say that, by strict integrity and hard work, these gentlemen have made a host of friends, and have added an unblemished record to that which they had already gained in their mining operations in Northern Colorado; and if Eastern men owning properties would get such as they to manage their mines instead of sending inexperienced friends here to do it, as is too often the case, it would be far better for them and for the San Juan mines; as a failure of success, either by lack of industry and experience or by reason of dishonest management, results invariably in "Damn the country!" just as a poor workman always finds fault with his tools.

In the prosecution of their work and sale of ore, Messrs. Allum and Lathrop have put a large amount of money in circulation, considering, of course, the newness of the camp; and have been of great benefit to at least this portion of San Juan.

The width of the crevice of the Virginius mine is six to eight feet; course, about northwest, southeast; ore, galena and gray copper, with "star" or antimonial silver.

In working the assessment on the Monongahela, ore was taken out which ran at the mill 400 ounces; but the average mill-run of that ore was about 200 ounces; and Colonel Blythe had a fancy assay made in San Francisco of a piece of solid gray copper from it, which gave a return of 7000 ounces silver and $52 gold to the ton.

There have been two levels run on the Virginius—the upper, 250 feet, and the lower, 427 feet—these being well ventilated by three air-shafts; and in the end of the lower level a shaft has been sunk 40 feet, with a drift from the bottom of this each way, 40 and 33 feet respectively, about 1000 feet of work altogether, most of the actual dead-work of the mine having paid. Considerable activity is being manifested in this camp, and a large number of "solid men" of the East are and have been here examining our mines. Dr. Ingham, Mr. Harrison Wright, Col. Monies, and Mr. Arnold Bertels, of Wilkes-Barre, Pa., came here two weeks ago, to examine the Wheel of Fortune series of mines, in which they are interested, and went back fully satisfied as to the immense mineral wealth of this camp in general, and of their property in particular. Mr. J. L. Roper, President, and Mr. Bain, Secretary and Treasurer of the Norfolk & Ouray Mining and Smelting Company, both of Norfolk, Va., are now here examining the property of the company, chief of which is the wonderful "Mineral Farm," which I described in one of my recent letters to your paper, and which I doubt not was looked on as an Arabian Nights' tale, or at least as the outcome of a very vivid imagination. I am informed that they intend working the property at once on a large scale. Messrs Wiggins & Howre, the former of Cleveland, O., and the latter of Saginaw, Mich., are here examining the Trout and Fisherman, in which mines they are part owners, with the view, I believe, of putting in concentrating works. The two latter mines I also described in a recent letter.

We have an embryo Leadville within 40 miles of here on the Dolores. I hear that 200 burros were loaded there last Sunday with high-grade carbonate ore; and two weeks since, 30 jacks came in here loaded with ore that is said to have run at the mill 147 ounces. But, as I propose visiting the camp next week, I shall be able to give you more definite information. At the lower San Miguel placer mines, a company cleaned up over 100 ounces of fine gold lately, and there is much stir there also.

OURAY, July 16. W. W.

SILVER CLIFF MINING NEWS.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: A rich gold lead was discovered at Silver Hill (or Park), 18 miles east of Silver Cliff, in Hardscrabble Cañon, a few days since, which has caused considerable excitement here. Capt. Al Barnes found a piece of gold float quartz, showing fine gold; and an assay made by Messrs. Chose & Grobel, at Rosita, gave $300,000 to the ton. Thomas Dunham made the strike, and found a vein 30 inches thick at a depth of 18 inches, which assayed in different parts of the vein 40½,88, and 160 ounces in gold. Dr. Jay Guy Lewis offered to bond it for $100,000; but the offer was rejected. My informant, who is a reliable gentleman, and who was then at the mine, tells me that it has since been bonded for $500,000. There can be no doubt as to the abundance of rich ore in that vicinity.

THE DIRIGO.

Mr. S. F. Jordan, a gentleman from Maine, who has spent three years prospecting in the vicinity of the Ben Franklin, situated seven miles east of this city, has struck a rich vein of mineral on the Dirigo, which adjoins the Ben Franklin. At a depth of 25 feet, he discovered silver, gray copper, galena, and zinc, which will yield richly; assays running from $70 to $400, in silver and gold. Professor Wheeler, metallurgist and mining reporter, visited this mine, and in his report to capitalists, in whose interest he is here, says that, with proper development, it will prove one of the best-paying mines in this district. It is a true fissure-vein, four feet in width. It is bonded to D. K. Cross, of Boston.

THE DOMINGO

is being worked day and night, and is considered to be of equal value with Bassick's celebrated Maine mine.

A company has been formed to tunnel Round Mountain; it is thought by experts and practical miners that the entire hill can be worked advantageously. The Plata Verde, Jayhawker, Hidden Treasure, and other mines of local note are located on this mountain.

The Valley Queen, a fractional claim, is located east of and adjoining the Racine Boy, and rich pockets of chlorides of silver were found a few days ago that assayed 253 ounces, at a depth of 12 feet.

Iron Mountain Lode No. 1 is being worked night and day, taking out quartz (agatized) that runs high in gold. It was purchased a short time ago for $25,000, and is now valued at $100,000.

The mines at Dora, six miles north, are showing well, and miners are flocking in rapidly. The town is but a few weeks old, with fifty houses already built, others in process of erection, and a smelter in operation.

Mines in Texas Gulch and Copperville are fissure-veins, and generally at a depth of from 25 to 35 feet. Assays run from 50 to 70 ounces silver.

The diamond drill sinking on the Belfast (adjoining the Silver Cliff) has brought up rich horn-silver; and the owners, who bought it for a small sum a short time ago, have refused an offer of $45,000 cash. Parties are now in Chicago negotiating for the property at $100,000.

Rich strikes have been recently made on the Buffalo Hunter and Boulder (adjoining claims), at grass-roots, showing 100 ounces, and 1100 at a depth of six feet. The ore is chlorides and horn-silver. These claims are on the same bluff, a portion of which is owned by the Silver Cliff Mining Company, and recently bonded for 60 days at $32,000. The Rambler, King of the Valley, and other mines in their vicinity are all showing finely, and improving with each day's work.

A few words about Silver Cliff. Less than one year ago, the first discovery of mineral was made. The first house was erected September last. Last February, the city was incorporated under the laws of Colorado; and now there is a population of over 4000, a regular municipal government, and scores of mines valued among the hundreds of thousands of dollars. Its history is even more remarkable than that of Leadville. The climate is fine—magnificent mountain scenery, and no valley more beautiful than Wet Mountain, which lies at the foot of the Sangre de Cristo range, in plain sight.

What we require is railroad communication. The nearest station is at Cañon City, 30 miles distant; but a route has been surveyed through Grape Creek Cañon to this point.

The organization of the Silver Cliff Mining Company in your city is causing capitalists to turn their attention to this district, which has almost been unknown hitherto. The property of this company is within a few yards of our principal street, and thousands of dollars' worth of ore is in sight, and the supply apparently inexhaustible. A.

SILVER CLIFF, COLO., July, 1879.

In "a perfect mine of Roman ruins," found near Dueren, in Germany, has been found a hot-air clay pipe, and a tile bearing an inscription dated the 11th year of the reign of Augustus (19 B.C.) Among the rubbish were discovered jugs, pitchers, and a serving dish.

PROGRESS IN SCIENCE AND THE ARTS.

General Science.

A New Mode of Measuring the Intensity of Light.—Prof. J. W. Draper describes, in the July issue of *Silliman's Journal*, a new instrument, which he calls a "spectrometer," and which he proposes to employ to determine the intensity of a light, on the general principle that a light becomes invisible when it is in the presence of another light about sixty-four times more brilliant. He brings the spectrum of the light to be measured into the presence of an extraneous light of known illuminating power, and varies its distance from the instrument until its light is just sufficiently powerful to extinguish the spectrum. The suggestion is novel and valuable, and our readers are referred to the original communication for details. We remark incidentally that, in the use of this instrument, Prof. Draper found that the generally-accepted belief that the yellow is the brightest of the colored spectrum spaces is not true of the prismatic spectrum, and that the luminous intensity diminishes from that in both directions, above and below; that the "extinguishing flame" first extinguished the violet, then the other more refrangible colors in their descending order, and that the red was the last to persist. The red, he found, was invariably perceptible long after the yellow had disappeared. On diminishing the illumination, the red region of the spectrum first comes into view, the other colors following in the order of their refrangibility. He believes this apparent contradiction to be due to the action of the prism, "which narrows, and, as it were, condenses the colored spaces more and more as we pass toward the red, increasing the intensity of the light as it does that of the heat."

The Public Lands Awaiting Settlement.—There is still plenty of room in the country. The area of lands surveyed and ready for occupation, according to the reports of the General Land Office, amounts to the imposing figure of 724,311,477 acres; and nearly twice as much more is waiting to be surveyed. The government sales of land for cash during the ten years which closed with June amounted to 57,666,970 acres, exclusive of the large grants to home-hunters. The Chicago *Inter-Ocean* comments upon these figures, in a wholesome editorial, urging the unemployed thousands of the overcrowded cities to take up these acres and turn them into wealth, health, and happiness. Here is a sample paragraph: "If one half the energy and enterprise now displayed by trades-unions were diverted to finding homes upon the unoccupied lands of the West for the thousands who could profitably till them, there would be less occasion for complaint, both from those who would go and those who would stay."

Metallurgy and Mineralogy.

The Strength of Wrought-Iron as affected by composition and reduction by rolling has been experimentally studied by Mr. A. L. Holly, whose conclusions are stated to be: 1. Phosphorus up to 0·20 per cent does not harm, but probably improves iron containing not more than 0·15 per cent silicon, or 0·03 per cent carbon; 2. The strength and welding power by ordinary methods are affected by the amount of reduction the iron undergoes in rolling, as by the ordinary differences in composition. Uniform strength may be promoted by uniform reduction, but only at such increased cost of manufacture that the practice is not likely to be adopted. The reduced strength, therefore, of large bars, as ordinarily made, must be considered in designing structures; 3. The U. S. Test Board having shown the unsafety of the Admiralty proof tables for chain cables, has prepared new tables, requiring that the tenacity of chain iron for 2-inch and 1-inch cables should be respectively from 48,000 to 52,000 pounds and 53,000 to 57,000 pounds, and that stronger irons make less efficient cables because of their lower ductility and welding power; 4. Deductions can not be made nor conclusions be properly drawn from mechanical tests unaccompanied by chemical analyses; 5. The cheap steel processes secure a more uniform product than those for making wrought-iron; 6. The perfection of the means for welding in a non-oxidizing atmosphere seems to be the most promising direction for improvement in the practice of welding.

Concerning Manganese Bronze, made by the addition of one or two per cent of manganese to the usual proportions of the metals used in making brass and bronze, we learn some interesting facts from the London *Mining Journal*. Our contemporary's remarks are called forth by the inspection of a large collection of specimens of this alloy, which were sent to the South Kensington Museum for exhibition at the recent *conversazione* of the Institute of Civil Engineers. Among the specimens exhibited, says the *Mining Journal*, were a splendid rolled plate 9 × 3 feet, No. 11 wire gauge, of beautiful color and perfect in texture and surface; angle bars and rivets of the same quality rolled hot; smaller pieces of plate and angle bars riveted together cold, to show the application of the alloy to the building of torpedo-boats, steam-launches, etc. The alloy has shown its excellent adaptability for these uses by sustaining successfully the Admiralty test for steel plates—to which they are affirmed to be superior by reason of being much less susceptible to oxidation—giving a tensile strength of 29 tons per square inch, and an elongation of 25 to 35 per cent, and bending without cracking to a much closer radius than stipulated by the Admiralty. Other specimens among the exhibits were rolled rods of various sizes for pump-rods, for making into bolts, etc., several forged bolts and nuts of large size, for fastening the blades of propellers, and coils of wire of various gauges, from that used for rivets down to the smallest size. Of castings, there were a pair of connecting-rod brasses made for the engines of a steamship now being built by Messrs. R. Napier & Sons, of Glasgow, for the Pacific Steam Navigation Company, and in which engines nearly all the parts usually made of gun-metal are constructed of manganese bronze. (The new alloy is affirmed to have a tensile strength at least 60 per cent greater than gun-metal, and to have three or four times its wearing qualities.) Of more intricate castings there were among the exhibits a cylinder and pump of a rock-boring machine, and of the same metal, a cycloidal propeller, and some castings for stop-cocks.

Concerning the qualities of the new alloy, our contemporary speaks in terms of the highest praise. In casting, it is said the alloy runs very fluid, and the thinnest and most intricate castings are turned out without a flaw. Of its strength, it is affirmed that a 1-inch bar on supports 12 inches apart required 4256 pounds to break it, or considerably more than good wrought-iron would resist; a plate of manganese bronze one eighth of an inch in thickness, cast in greensand, was shown doubled up nearly flat without cracking; and when forged and rolled, its strength is affirmed to be equal to that of steel. Its average tensile strength (forged or rolled) is 30 tons per square inch, with an elastic limit of 11 to 18 tons, and an elongation of from 20 to 45 per cent: these figures apply to annealed metal. When cold-rolled, the breaking strength of bars or rods rises to 40 tons, with an elastic limit of 30 tons, and an elongation of about 12 per cent. Other and equally favorable accounts of the new alloy are given by our contemporary, and a variety of applications are named for which it may be successfully substituted for iron, steel, and other metals. For the article in full, we refer our readers to the London *Mining Journal*, and for a full abstract, to the *Scientific American* of July 12th.

Native Brass (?).—Specimens of what appears on analysis to be native brass are reported to have been found along the ravine of the south fork of the North Yuba River, in Sierra County, California. As reported by a correspondent in the *Mining Record*, the specimens are in the form of small, somewhat flattened, concretionary masses, from ¾ to ¼ centimeters in diameter, and destitute of apparent crystalline structure. Color, from dark reddish-brown to yellowish-white; streak, faint yellowish-white; spec. grav., 8·33; somewhat brittle; slightly incrusted with green carbonate of copper. Dr. T. B. Stillman gives its composition from his analysis as:

Copper	85·02 per cent.
Zinc	11·02 "
Antimony	3·82 "
Iron	0·09 "
	99·95 per cent.

A Native Gelatinous Silicate is described by Prof. E. Renevier as occurring near Lausanne in Switzerland. When first taken out, it is said to have had the consistency of a semi-liquid starch-paste; color, white; translucent; luster, greasy, and touch unctuous. After considerable exposure, it became nearly solid, resembling steatite; having a hardness of 1, and a specific gravity of 2·08 to 2·10. Its chemical composition was found to be almost identical with the mineral chabasite. Renevier refers it to this species, but calls it "a mineral in an embryonic condition."

Engineering, Mechanics, etc.

Gas-Engines.—London *Engineering*, discussing the subject of gas-engines, holds that for the small industries they bid fair to be widely adopted in the future. "Where steam is required for heating, boiling, and other purposes, the steam boiler will always hold its ground; but for many minor industries, we may say that the days of small steam boilers are numbered."

The Power-Looms of the world, says the *Textile Manufacturer*, produce annually 10,000 million yards of cotton cloth. We presume our contemporary is certain of its figures, and to put them into a shape that will be more comprehensible to our readers, we will add that a strip of cotton cloth of this prodigious length would be sufficient to wrap about the earth at the equator 237 times. The same authority makes the remark that the Chinese consume on an average 20 yards to each person; in England it is 30 yards, and in America, 40 yards per person. We have a lurking suspicion that our contemporary's estimates are rather high.

Chemistry, Physics, and Technology.

The Impregnation of Railway Cross-ties, it is reported, on the authority of Mr. John Bogart, is now very generally practiced by the railway authorities of Great Britain and Ireland, and creosote oil appears to be the material at present exclusively used for the purpose. The cost of treatment is affirmed to average 23 cents per sleeper, each piece receiving about 0·82 gallons of the oil, or about 7·175 pounds per cubic foot of timber. The duration of such creosoted ties is reported to vary greatly according to circumstances of traffic, drainage, ballast, etc., to which they are exposed; but their average life is placed at about 16 years; the gain from the impregnation being variously estimated at from two to ten years, and averaging about six years.

Adulteration of Food and Drugs.—A late issue of the *Popular Science Monthly* has some very interesting notes apropos of this subject, the substance of which we give in what follows. In New England, it is affirmed, several mills are engaged in grinding white stone into powder for purposes of falsification. They conveniently supply the ingenious inquirer with three grades of the stuff: a soda grade, a sugar grade, and a flour grade. A Boston chemist has found in a sample of cream-tartar, 75 per cent of terra alba, and most of our confectionery contains 33 per cent of the same adulterant. The frequency with which baking-powder is adulterated with alum, terra alba, insoluble phosphate of lime, and other injurious or worthless substances is shown by quotations from a recent report of Dr. Henry A. Mott, Jr., Chemist to the Indian Department, in which he asserts that 50 per cent of all the baking-powders in the market are grossly adulterated. For the sake of illustration, examples are given of the composition of four well-known powders, all of which are shown by analysis to contain from 20 to 30 per cent of alum. The adulteration of certain drugs appears to be even more extensively and shamelessly practiced, so that "in some localities a conscientious pharmacist is hardly able to earn a livelihood, owing to the mean and dishonest competition which surrounds him." The editor of the *Pharmacist* (Chicago) relates that he sought in vain in that city for black sulphuret of antimony, but not a trace of antimony was discovered in the samples he obtained. In most cases, the stuff consists simply of "marble-dust blackened with soot."

Asphalt and Timber Flooring.—A combination of this kind, made by imbedding the boarding in asphalt, is said to have obtained a wide application in France, where it is very popular for the ground stories of barracks, hospitals, churches, and public buildings generally. Nails are unnecessary, and a perfect level may be given to the surface of the boarding by planing after it has been laid down. It is claimed for it that it will prevent the inroads of dampness from below and its consequences; that it may be easily and perfectly cleansed; that vermin can not accumulate; that unhealthy exhalations can not penetrate it from the soil; and that the layer of asphaltum will prevent the spreading of fire from one floor to another. [Being itself highly combustible, its efficacy in this last respect may well be doubted, though its other advantages appear to be decided.]

PETROLEUM NOTES.

COMPARATIVE SYNOPSIS OF REPORTS FOR MAY AND JUNE, 1878 AND 1879.

42 GALLONS = 1 BARREL.	1879.		1878.	
	May. 31 days.	June. 30 days.	May. 31 days.	June. 30 days.
	Bbls.	Bbls.	Bbls.	Bbls.
Stock at wells	250,922	250,922	260,300	260,300
Production for the month	1,621,672	1,653,150	1,264,862	1,217,250
Daily average production	52,312	55,105	40,802	40,575
Iron tank stock	6,705,892	6,956,814	4,735,758	4,817,889
Total stock in the region	6,956,814	7,240,650	4,996,058	5,078,189
Shipments out of the region	1,331,469	1,369,314	960,894	1,135,119
Number of producing wells	11,045	11,223	9,460	9,605
" " drilling wells	460	384	376	266
" " " " completed	402	330	470	269
Average daily production of new wells in bbls	22 9-10	25 3-10	11 5-8	14

UNITED PIPE LINES REPORT.—Following is a summary of the statement made by the United Pipe Lines, showing their condition at the close of business, June 30th, 1879:

	Barrels.
Crude petroleum in tanks and pipes June 30th, 1879	6,426,802.45
Sediment and surplus	334,457.29
Net stocks	6,092,345.16
Outstanding acceptances	2,959,921.12
Credit balances	3,132,424.04
Total liabilities	6,092,345.16
Crude petroleum received in June	1,437,250.90
" " delivered in June	1,204,757.54

OUTSTANDING CERTIFICATES.—The following table exhibits the amount of oil in the United Lines represented by outstanding certificates and other vouchers at the close of each of the first six months of 1878 and 1879:

OUTSTANDING CERTIFICATES.

	1878.	1879.
January 31st	864,711.41	2,153,763.83
February 28th	1,404,292.13	2,346,238.22
March 31st	1,487,439.50	2,484,881.83
April 30th	1,615,791.19	2,644,301.36
May 31st	2,065,333.31	2,522,486.36
June 30th	1,950,420.81	2,959,921.12

PITTSBURG PETROLEUM TRADE.

RECEIPTS.

Stock, June 1st, 1879	358,747 bbls.
Received in June by A. V. RR	27,817 "
" " " " Pipe Lines	179,879 "
Total	566,443 "

DISBURSEMENTS.

Shipped refined East reduced to crude equivalent by Pa. RR.	126,585 bbls.
Do. by B. & O. RR	465 "
Barges to C. & O. RR	"
Home Trade	5,357 "
In stock May 31st	434,036 "
Total	566,443

—*Stowell's Petroleum Reporter, July 15th*, 1879.

The *Shipping and Commercial List* of July 23d says of the market: There have been no new developments calculated to change the current of business, and with a light demand the tone of the market is scarcely so strong.

Refined.—The ruling prices since our last have been 6⅞ cents for New York and 6¾ cents for Philadelphia and Baltimore delivery, closing with late August and September deliveries more freely offered at quotations. The sales have probably not exceeded 25,000 bbls. In cases, there has been a light business at 9¼ cents for plain brands for August delivery.

Crude—Has been but little inquired for, and prices remain nominally 2⅛ cents in bulk, and 5@5¾ in shipping order.

Naphtha—Remains quiet at 4¼@5¾ cents.

Certificates.—About 600,000 bbls. changed hands at the New York and Oil City Exchanges, closing at 69⅜ cents bid, and 70 asked.

LONDON, July 22.—Refined spot dull, 6⅛d.; last four months dull, 6¼d.

ANTWERP, July 22.—Refined firm, 17¼f.

EXPORTS OF REFINED, CRUDE AND NAPHTHA.

	1879. Gals.	1878. Gals.
Since our last	3,986,531	
Previously since January 1st	123,674,552	98,753,727
From other ports	52,525,334	40,230,426
Total	180,186,417	138,984,153

The same authority further observes: "For a business that has not yet reached the second decade of its history, the developments connected with petroleum exceed any thing in the history of commercial movements. In the early years of its history, there was a popular theory that the supply would prove transitory, and fortunes were staked and lost upon that supposition; but events have completely upset this theory, the supply having steadily increased till it now reaches 55,000 to 60,000 barrels of crude oil daily, and the price has fallen from upward of $1 per gallon to 65@70 cents per barrel. For some years, foreign markets were able to take our surplus; but of late the production has been so large that even that source of absorption has failed to relieve the home market, which explains the extremely low price, forty-two gallons of crude oil at this source of supply being worth only about half as much as the empty barrel into which it is placed. The low price, however is opening new markets, especially in the countries of the far East, and the probability is, that the lowest depth of depression has been reached."

GENERAL MINING NEWS.

ARIZONA.

THE QUARTZ MILLS IN YAVAPAI COUNTY.

The Prescott *Miner* of the 11th inst. says:

"Yavapai County has now twelve quartz mills, with one hundred and two stamps, or more than all the rest of the territory combined. It is true that not all of these mills are in active operation, as some of them are now being put up, while others are undergoing repairs; however, it is safe to conclude that all of these mills will be producing bullion by the 1st of September. Below we give a list of the mills and locations, etc.:

Senator, Hassayampa, Bowers & Richards	10 stamps.
Masterson, Turkey Creek	2 "
Crooke, Turkey Creek, Buffum	5 "
Tiger, Bradshaw	10 "
Peck, Alexandra	10 "
Tip Top, Gillett	10 "
Bradshaw Mill, Bowen & Co	10 "
Hoefler, Walnut Grove, C. C. Bean	5 "
Aztlan, Prescott, " "	10 "
Gray, Big Bug	10 "
Clark, " "	10 "
Golden Era, Cherry Creek	10 "
Total	102 "

"Besides the numerous mills, there are many arastras in active operation, being run by horse, water, and steam power, all of which are turning out considerable bullion. Again, we have two or three smelters which do good work and are the means of giving employment to many. We hear of many mine-owners who are in a fair way of putting their properties into working shape, and the chances are favorable for other quartz-mills to go up soon."

THE SENATOR GOLD MINE.

"Negotiations are in progress for the transfer of the Senator mine to a New York incorporation, who will proceed to develop this valuable mining property by means of a tunnel from a point near the bed of Hassayampa Creek, cutting the ore-chimney at a depth of seven hundred feet from the surface, and effectually draining the mine, without any expense for machinery or pumping, and opening a five years' supply of ore for stoping and two thousand feet of unprospected ground for exploration.

"The new company will have a splendid property which can be worked cheaper than any quartz mine in Arizona, and which contains a well-developed paying ledge.

"One thousand tons of second-class ore from the Crook mine, which were worked in the Crook mill, yielded $28,500. The mine and mill are still just as good as they ever were; but the water has disappeared. By running a tunnel in and tapping the lead 250 ft. beneath the surface, plenty of good ore would be found, the mine drained, and plenty of water procured to run the mill."

THE GLOBE DISTRICT.

From the *Silver Belt* of the 11th inst. we take the following:

"The Nugget Mining Company has recommenced work on its mines in Richmond Basin. It is the intention of the company to erect a mill in the Basin and try to have it running by November. The mill-site is most admirably located for the working of not only Nugget ore, but also those of the La Plata and Mack Morris mines. It is on the edge of an arroyo, near the Nugget shaft, and not more than one hundred and fifty feet from the Mack Morris side-line. It is said that there are now ten feet of water in the shaft where it is proposed to build the mill, and it is confidently believed that the supply of water will increase as the vein is sunk upon. The water of the Mack Morris spring, which is adjacent to the mill-site, could also be utilized for milling purposes. There is but little doubt that the south side of Apache Mountain, where these mines are situated, is full of water, which is proved by the fact that wherever wells near the foot of the south side of the mountain have been sunk, water has invariably been found at the depth of fifty feet or less, flowing from the direction of the mines; and it is further proved by the fact that the La Plata, Mack Morris, and the Nugget mines show permanent water at that depth. Upon the summit of the mountain, about a mile from where it is proposed to erect the mill, there is an abundance of timber. The question of ore for a ten-stamp mill scarcely admits of a doubt. It is generally conceded that the Mack Morris mine alone would furnish the requisite ore.

"The Stonewall mill is again short of water, and in consequence runs on half time.

"The roaster for the Isabella mill has arrived. The work for placing it in position is going forward vigorously.

"A new strike has been made in the main vein of the Independence mine. The ore-vein is five feet wide and of a good grade. The owners will commence to take out ore for the mill at once."

CALIFORNIA.

THE BODIE DISTRICT.

We are indebted to the *Standard* of the 12th inst. for the following items:

"Not much progress has been made on the Bodie mine during the week in sinking the north winze, owing to water. No important change to report. The mine looks well throughout, and the quality of the ore is as good as ever. In the bottom of the winze, the ledge is strong and rich.

"The north drift, east cross-cut, 385 level of the Standard Consolidated mine, is in 265 feet on the foot-wall; 5 feet of ore can be seen. Considerable water has accumulated in the 700 level, but it is anticipated to resume work on both cross-cuts of this level very soon.

"In the Brooklyn Consolidated mine, excellent progress has been made during the week, in sinking and retimbering the shaft. This mine is improving as progress is being made.

"The ledge of the Vortex mine is looking splendidly, and improving as depth is attained. It is three feet in width, and will mill $70 per ton. Some ore has been taken out of this mine ready for hauling to the mill.

"The developments in the South Bulwer mine during the week have been of an encouraging character. The vein on the 350 level is looking well, and yielding a large quantity of ore.

"The shaft on the Double Standard is down 206 feet. The new developments in the Washburn mine, situated east of the ridge, and east of the Summit mine, look well, and a shaft is in over 100 feet. The vein at present is 4 feet in width, with well-defined walls. A great deal of interest is centered in the cross-cut southeast, 260 level of the Richer mine.

"In the Maryland Consolidated mine, drifting north from the 250 level has been commenced. Mining machinery is on its way to this company's property.

"The explosion of the Powder Company's magazine, at the old Standard works, on the 10th inst., caused considerable interruption to operations at various mines, and a number of mines had more or less repairs to make; but every thing is now going ahead smoothly again. In this explosion, six men were killed outright, and twenty more or less injured."

COLORADO.

Samples selected by disinterested parties from six claims at Chaffee City gave an assay of 94 $\frac{33}{100}$ ounces silver, and 60 $\frac{83}{100}$ per cent of lead.

A fire occurred in the Court-House at Leadville on the 13th inst., but was soon extinguished without the loss of any important papers, all the records and unfiled deeds being saved.

A half-interest in the Hercules, Doss, and Home mines on Four-Mile, in Boulder County, has been sold to J. B. Dickinson & Co. A company, with a capital of $75,000, has been formed, under the style of the Hoosier Mining, Milling, and Smelting Company. This company also owns the chlorination works, near Left-Hand.

In the Hellgate District, Fremont County, there are some very flattering prospects, although the developments are as yet very meager. The assays run from 20 to 80 ounces silver per ton and from 1½ to 3 ounces gold.

A Denver *Tribune* correspondent, writing from Silver Cliff, under date of

July 12th, says : "The Buckeye Company is now working thirty men on the King of the Valley and Gray Eagle. Drift No. 4 on the former is showing handsomely in sulphurets, and ore that is being sacked from the latter runs about 600 ounces. As soon as hoisting machinery can be procured, the Gray Eagle will be put in practical working shape."

THE ALPINE SILVER MINING COMPANY.

The mines of this company are located on Boulder Mountain, Alpine County, Colorado, about fifty miles from Cañon City or Leadville. The proposed station of the Atchison, Topeka & Santa Fé Railroad at the junction of the Arkansas River and Salt Creek will be located within about 10 miles of the company's mines. The Longmont *Mirror* of July 1st says of this company's mines, that the developments during the past winter have demonstrated them to be very valuable. The mines are accessible and the ores are very rich and easily treated, the ledges showing great strength. The following statements show some recent assays and mill-runs from the company's mines as subscribed to by the company's superintendent :

Yellow Jacket			84 ozs. silver, 9 ozs. gold.
Amna	100	"	" mill run.
Extension, Capt. Jack	333	"	"
Same	106	"	" " "
Smuggler	62	"	" 1½ ozs. gold.
"	102	"	"
Grand Central	145	"	" 2½ ozs. gold.

From a correspondence of the Georgetown *Courier*, we learn that in the Rabbit Ear range on the North Park side, carbonates, same as found in Leadville, have been discovered.

The Kanawha Lode, on Miller Mountain, has 4 feet of ore in the breast, which shows galena, copper pyrites, and a little gray copper. The ore runs from 80 to 102 ounces per ton.

The Smuggler, owned by the same parties, is giving $\frac{8}{10}$ oz. to $70 per ton in gold.

The Mauch Chunk, in Beaver Gulch, has a vein 12 inches thick, which is giving mill-runs of 400 to 500 ounces of silver.

THE DUNDERBERG MINE.

From the Georgetown *Miner* of the 19th inst. we learn that developments upon this property are progressing very rapidly, and that the work now being done is simply that of development, no ore being taken out that can be conveniently left standing. The first, second, and third levels below the discovery-shaft are being drifted ahead, and the four levels above the discovery are also going ahead. The deeper levels from the discovery-shaft are opening up some very favorable ground, the second level carrying about one foot, and the third about 5 inches of excellent ore. An engine of 70 horse-power has been ordered, and will be placed over shaft No. 4, for the purpose of running two hoisting-engines.

A big strike has been reported on Beggar Gulch, Rabbit-Ear Range. Considerable excitement exists in this region, and about 200 men are prospecting. New discoveries are being made daily. In Geneva Gulch, a strike has also been reported, of a very rich vein 2 feet in width. Another new mining camp has been discovered between Blue River and Empire Creek. Veins are large, and crop out of the ground. This district is 20 miles from Georgetown. Considerable excitement exists over the range at Peru, and the prospects are very encouraging. Considerable activity is going forward in the various prospects. Smelting, works are to be erected.

A correspondent, writing to the authority above quoted, from Kokomo, says that, "notwithstanding the elevation of this place (11,200 feet above the level of the sea), the climate is pleasant ; the low mountains give a long day of sunshine ; no severe winds prevail. The smelting-works are approaching completion, and it is thought that the owners will be in a position to commence the reduction of ore in about two weeks. The building is about 30 × 40 feet ; the smelting furnaces are of 40 tons' capacity ; boiler and engine of 35 horse-power, and every thing necessary for the conduct of a first-class establishment."

DAKOTA.

THE BLACK HILLS.

We are indebted to the *Pioneer* of the 12th inst. for the following notes :

"The property of the West Strawberry Mining Company, recently organized, is located in West Strawberry Gulch. This company has secured title to 21 mines, and it has fair prospects of working successfully. Its capital stock consists of 50,000 shares, of a par value of $10 each

"In the Rochford District, the old Stand-by mine, on Little Rapid Creek, has been organized by a New York company, and a 60-stamp mill, with all appurtenances, is ordered. The water of the Little Rapid Creek will be utilized as propelling power. It is estimated that the ore of this mine can be milled at a cost not to exceed sixty cents per ton, and that it can be quarried, and delivered to the mill, at $1.25 per ton, a total of about $2 per ton for mining and milling. It is thought that the ore will average about $8 per ton.

"In the Amelia lode, on the divide between the Bobtail and the North Fork, a fine body of quartz is encountered in the tunnel, which latter is in a distance of 80 feet. A rich streak of quartz is reported as being found at White Wood Gulch, 3 miles south from Lead, the body being disclosed in the tunnel at a distance of 28 feet from its mouth."

From the *Times* of the 17th, and various dates, we take the following :

"The Cap Sheaf mine has a tunnel in 182 feet, running 3 shafts, and the ore is improving. Girdler's mill, in Poorman's Gulch, is nearly ready to start up.

"Smelting-works are being erected in the Galena Silver District. These mines are producing a large amount of smelting ores.

"The Floorman mine is taking out considerable high-grade ore ; it is expected that 1000 tons of ore will be ready for the mill by the time it is erected.

"The Placers of the Hills yielded, for the month of June, about $200,000.

"A successful run has been made on ore from the Bessil mine, in Major Ledwig's mill.

"The Lancaster mill, adjoining Ledwig's, is at work on ore from the Chief of the Hill.

"The Minerva mine has its tunnel now in 230 feet. The tunnel has just passed through an immense body of porphyry which overlies the entire ore-body. It is said that the future of this mine is quite promising.

"A recent clean-up on ore from the Reno mine gave a result of over $6,000, from 400 tons of ore milled.

"The Resumption Gold Mining Company has struck the underground cement channel, at a depth of 195 feet. They have sunk in to the ore at a depth of 18 feet, and are obtaining flattering prospects. Drilling will be continued until bedrock is reached ; the well auger being employed for the purpose.

"The Homestake Company, or the Black Hills Canal and Water Company, signed a contract on the 16th inst. for about 120 tons of iron water-pipes, to be delivered within 45 days."

From the Black Hill *News* of the 14th inst. we extract the following :

"In the Placer mines of Lower White Wood Gulch, from Elizabethtown to Montana City, the product runs from $10 to $15 per day to the man. Several of these claims are now being re-worked by Chinamen on shares.

"Work on all the mines in Deadwood Gulch up to Gagville is being actively prosecuted, and a large majority of them are paying well, yielding as high as an ounce to the man per day."

From the *Herald* we take the following :

"The 40-stamp mill on the Roderick Dhu mine is steadily running day and night. Twenty stamps are running on the ore from the Fair View mine.

"The ore in the Caledonia mine is soft and slaty, and easily worked, and gives very satisfactory results. Thirty stamps are running on ore from this mine."

MONTANA.

We are indebted to the Butte *Miner* of July 15th for the following :

"A new shaft has been started 200 feet east of the old working shaft on the Stevens mine.

"The main shaft of the Alice has been driven down through the hard syenite to the full depth of 500 feet. The force is now deepening the sump, which is to be sunk 20 feet below the 500-foot station.

"The pump for this mine came in last week, together with a large amount of mining supplies, amounting in all to 300 tons. The pump is a monster, 32-inch cylinder and 14-inch plunger. The 10-inch water-column of cast-iron for the 500-foot shaft was alone a very important item in the freight bill.

"The main building, 50 × 176 feet, of the Colorado & Montana Smelting Company is about completed. The structure is frame, except the western end, which is of brick, and is designed for boiler, engine, and sampling-room. The 20 horse-power engine was put in position last week. The sampling works, to be provided with crusher, Cornish rolls and the sampling mill, will be in operation about the latter part of next week. As soon as they get to work, the manager will be prepared to purchase any description of smelting ore of sufficiently high grade."

DISCOVERY OF GOLD IN THE BIG HORN.

The *Courier* of July 10th says :

"We are indebted to Mr. Walter Cooper, who recently returned from an extended trip to Custer County, for some items of interest relative to prospecting and the discovery of gold in the bars of the Big Horn River. It appears that a party of three men have engaged in not only a thorough prospecting tour, but, during last fall and early spring, have been successfully working on some of the bars in the Big Horn Cañon. Mr. Cooper met the parties, and one of them informed him that they had prospected the river-bars for thirty miles up and down the river, and that there are bars the entire distance that will pay from $1.50 to $6.00 a day to the hand, with a rocker. Anderson said he washed out 1880 buckets, and obtained therefrom between $25 and $30. Another of the party washed out, last fall, 5000 buckets of the gravel and realized $100, and this spring he washed 1100 buckets, and got $25 as the result. All the washing was done with a rocker and copper plates. Mr. Cooper saw some of the gold, and brought up with him a very handsome prospect, taken from two pans of dirt. The ground can only be worked during low water, as the bars are mostly covered during the spring freshets."

NEVADA.

THE COMSTOCK.

From the *Gold Hill News* of July 16th we take the following :

"Ophir has stood the uncertainly of the market as strongly as any of the mines, and has certainly as good a foundation upon which to stand. The same promising formation continues in the incline, and the quartz encountered above has been cut in the 2300 station and found to hold fast to all its good qualities.

"But the water question has of late taken precedence. From Utah to Potosi it abounds. They have encountered more than they need in cutting out the tank near the bottom of the Utah incline, and it is giving them some trouble. Sierra Nevada's 138-degree flood, on the 2200 level, is subsiding slowly, but still hinders stoping, and has interfered with work on the incline, as well as on the 2300 level of the Union. It will soon be sent through the intervening mines to the C. & C. shaft, to be there raised to the Sutro Tunnel level, and thus disposed of. The Ophir incline is likely to be troubled a little for a few days, not because of any increase of flow in the mine, but during necessary changes in the pumping system, which will prevent the pumps from being operated as usual. Gould & Curry has bulkheaded against its flow successfully, and the 1900 level is perfectly clear and dry ; but at the new joint-shaft they are raising 720,000 gallons per day, or 500 gallons per minute. At length the flooded mines are ready to commence successful operations to free their lower levels of their long accumulations, the Chollar-Norcross-Savage shaft co-operating with them.

"The Imperial group have nearly recovered from the effects of the late fire. During the coming week, work will probably be going on as before the conflagration. In a day or two, the drifts on the 2760 and 2700 of the Belcher and Crown Point, respectively, will be united, and there will be an opportunity for cross-cuts into the ore-vein on that level. The situation there is hopeful, to say the least, as the indications for 600 feet above have been that the quartz of the lode was making down.

"At the Alta, there has been a decided advance made during the past week. Last evening, Briggs's mill (the Excelsior) started up on ore from the mine, where 60 tons had already accumulated. This mill has a capacity of 25 tons per day, and will be kept steadily running. Every indication, from the 1350 level, where the stopes have been opened, to the 1750 level, where bunches and stringers of ore are found all through the mineralized rock outlying the vein, is favorable.

"A location for a new joint shaft for the Bullion, Exchequer mines, etc., is made on the south line of the Sutro Tunnel grant, at monument No. 17 thereof, and running thence north 11° east toward Sutro shaft No. 4, 1350 feet ; thence east, 1368 feet ; thence south, 2110 feet to the south line of the Sutro Tunnel grant ; thence along the south line of said grant north 64¼° west 1810 feet to the place of beginning. It lies entirely within the limits of the Sutro Tunnel grant, and is situated on the plateau east of the line of the red croppings beyond the Dayton road and south and east of shaft No. 4 of the Sutro Tunnel. It extends up to the Hayward Consolidated, and is north of the old Manhattan. The route to it branches from the Dayton road north of the Forman shaft, where the ravine east of the red croppings comes in, and runs up by the city of Melbourne. The next site for an east shaft will probably be somewhere in the Carson valley.

THE OPHIR CONSOLIDATED MINE.

"The United States Patent perfecting the title to this mine covers the ground lying immediately south of, and adjoining, the Sierra Nevada, and extends along the easterly portion of the Union, Mexican, Ophir, and California to the Consolidated Virginia, including a very interesting and valuable slice of the bonanza end of the Comstock ore-belt. This ground was located in 1859, and therefore is one of the oldest locations on the Comstock.

"The mine was incorporated as the Vermont Consolidated. Heavy surface croppings which have been explored by the old Bunker Hill shaft and the Vermont tunnel indicate one of the true Comstock fissures, and ore was encountered at several points of a grade sufficient to show the location of great prospective value. A couple of years ago, the company went to a heavy expense in the erection of excellent steam hoisting-works, and commenced sinking a first-class three-compartment working shaft, a short distance to the northeast of the Ophir shaft, or nearly on a line between the Sierra Nevada and C. & C. shafts. They sunk to the depth of 550 feet; but debt, etc., compelled them to suspend operations. A company of San Francisco capitalists have bought up all adverse claims, settled all indebtedness, and a few days ago re-incorporated the concern under the name of the Ophir Consolidated.

"The machinery of the company is amply sufficient for present purposes, the shaft in fine order, and preparations are being made to commence sinking a thousand feet deeper. The company starts in with plenty of money, to say nothing of possessing one of the best locations and titles on the great Comstock ore-belt."

THE EUREKA DISTRICT.

The Ruby Hill *Mining Report* says of the K. K. Consolidated mine : "The main shaft is now down 900 feet, which is the greatest depth attained on the Hill by any single shaft. Drifts from the eighth and ninth levels are now cutting through the quartzite ; and it is daily expected that the head of the eighth left drift will strike the ledge. After piercing this for some distance, branch drifts will be run for prospecting this ledge matter, which is in places 300 feet wide. It may be

the good fortune of the company to strike an ore-body immediately upon entering the ledge matter. The quartzite on the ninth level gives assays of from $4 to $6 per ton, which is very encouraging, and significant of what may be expected when the head of the drift breaks into the great ore-bearing belt of brecciated limestone, in which the ore-bodies on Ruby Hill are found.

"From one of the upper levels of this mine $1,500,000 have been taken."

"The miners and smelters employed by the various companies of this district are as follows:

"Richmond Mining Co., 200 miners, 160 smelters, and 100 refiners; Eureka Consolidated Mining Co., 218 miners and 82 smelters; Jackson Mining Co., 45 miners; Phœnix Mining Co., 40 miners; K. K. Consolidated Mining Co., 35; Albion Mining Co., 34; Wales Consolidated Mining Co., 15; Kit Karson Mining Co., 10; Hamburg Mining Co., 7; Fourth of July Mining Co., 6; Eureka Tunnel Co., 6; Prospect Mountain Tunnel Co., 6; Williams mine, 5; small and unincorporated mines, 250; making a total of 1159 men."

The *Sentinel* says: "The question of water is becoming a troublesome one in the mines of Ruby Hill. It is the more difficult to cope with in consequence of the ore-bodies having dipped a long way to the eastward, from the old workings. We are informed that there is a movement on foot, among several of the leading mining companies, to sink an immense combination shaft, capable of accommodating all the mines concerned, and at the same time rid the great lode of water. If possible, the directors of the several mines will inaugurate the work at once. It is understood that the Eureka Consolidated, K. K., Phœnix, and Jackson will all be solicited to participate in the enterprise and share in its benefits. The Richmond can not take part in the proposed work, for the reason that the ground of that company lies too far to the north and west. However, if the great shaft be constructed, the Richmond can not fail to be benefited, as the draining of the ore-channel to the southward must lessen the water-supply further north. The new shaft will probably be located somewhere between Newtown and Caribou Hill."

NORTHUMBERLAND DISTRICT.

The Austin *Reveille* says that more active mining operations are about to be commenced in Northumberland Mining District, Nye County, some fifty or sixty miles south of Austin, where for some years past but little has been done, though at one time it attracted considerable attention.

NEW MEXICO.

THE MASSACHUSETTS & NEW MEXICO MINING COMPANY.

We are officially advised that this company has had completed for its mill and mine the following machinery:

One eighty horse-power stationary engine, one hoisting-engine, two boilers, (one forty and one eighty horse-power), one crusher, two pulverizers, 4500 feet of tubing for carrying compressed air, with fittings, etc.; all of which will be shortly shipped to the company's mines. The balance of the machinery has been contracted for, and includes four rock-drills, one air-compressor, four grinding and amalgamating pans, two settlers, one agitator, one concentrating-table, steam-pump, shafting, pulleys, belts, etc.; also lathes, drills, tools, etc., which will enable the company to keep its machinery at all times in perfect order. As soon as the balance is completed, it will be shipped to the mine and set up at once. The prospects of this company are certainly very flattering.

UTAH.

The *Salt Lake Herald* of July 18th says that negotiations are now in progress looking to the erection of reduction works in the vicinity of the Jordan River, at the nearest practicable point from the mouth of Bingham Cañon. It is thought that there is enough gold quartz now in sight in the gold-bearing district of Bingham to justify the constant running of 500 stamps, if there were but sufficient water to supply the stamps and mills; and the natural and only inference is, that these mills will be built on the Jordan; and as soon as this fact becomes patent, the tariff reduction will follow, with the erection of numerous mills, and the final consequence will be that additional employment will be given to thousands of men. This is destined to become one of Utah's great mining industries; and the prospects are, that it will take place in a very short time.

PROPOSALS.

For the benefit of many of our readers, we compile weekly such proposals and solicitations for contracts, etc., as may be of interest. The table indicates the character of proposals wanted, the full name and address of parties soliciting, and the latest date at which they will be received:

Rolled Iron Beams, Girder, etc.; Thomas R. Jackson, Superintendent of Repairs, New York Post-Office, New York	July 26, 1879.
Marble Tiling; Thomas R. Jackson, Superintendent of Repairs, New York Post-Office, New York	" 26, "
Sewer; City Clerk, Des Moines, Iowa	" 28, "
Steam Piston; City Controller, Pittsburg, Pa	" 28, "
Wrought and Cast-Iron Work for the Washington Monument; T. L. Casey, Engineers' Office, Washington Monument, Washington, D. C	" 28, "
Coal—450 Tons Lehigh Broken, and 4 Tons of Lehigh Egg; A. H. Gilman, Pay Director U. S. Navy, 29 Broadway, New York	" 29, "
2000 Gallons Sperm Oil; A. H. Gilman, Pay Director, U. S. Navy, 29 Broadway, New York	" 29, "
400,000 Belgian Paving Trap Blocks; A. H. Gilman, Pay Director U. S. Navy, 29 Broadway, New York	" 30, "
3200 Tons of Coal; Committee on Supplies, Room 10, County Court-House, Kings County, N. Y	" 30, "
Binding the Minutes of the Common Council of Brooklyn; Board of City Works, Brooklyn, N. Y	" 31, "
Constructing 100 Miles of Railway; F. Braun, Secretary Department of Railways and Canals, Ottawa, Ont	Aug. 1, "
Erecting Bridges and Making Roadway between Dayton and Sutro, Nev.; Board of Commissioners of Lyon County, Nev	" 4, "
Steam-Heating Apparatus; Commissioners of Venango County, Franklin, Pa	" 5, "
Bridge; Commissioners of Venango County, Franklin, Pa	" 7, "
Jetties; Major John M. Wilson, U. S. Engineer's Office, Erie, Pa	" 9, "
Steam-Heating; City Clerk, Columbus, O	" 11, "
Dredging in the Thames River, Conn., Major J. W. Barlow, Engineer's Office, U. S. A., New London, Conn	" 12, "
Erection of New Buildings at the State Agricultural College; R. G. Baird, Secretary, Lansing, Mich	" 12, "
Sinking Shafts on the Savage and Mono Mines; Nathaniel Ross, Prescott, Arizona	
Narrow-Gauge Locomotive; Chief Engineer St. John's & Indian River RR., Titusville, Fla	" 15, "
Wire, Nails, etc.; D. H. Rucker, Quartermaster's Office, Philadelphia, Pa.	" 20, "
100,000 tons of Steel Rails to be Manufactured in New Zealand; John Knowles, Under Secretary for Public Works, Wellington, New Zealand	Sept. 30, "

NEW PATENTS.

The following is a list of the new inventions relating to Iron, Coal, Mining Machinery, Chemical Apparatus, and the treating of Precious Metals, etc., from *The Official Gazette of the United States Patent Office*, for the week ending July 15th, 1879:

No. of Patent.	*Title of Invention.*	*Name of Inventor.*	*Residence.*
217,441	Elevated Railway	O. W. Barnes	Fishkill, N. Y.
217,466	Electric Induction-Coil	J. L. Le Conte	Philadelphia, Pa.
217,468	Globe-Valve	John C. Lorenz	St. Petersburg, Pa.
217,474	Machine for Crushing and Grinding Rock	William C. Morrison (a)	San Francisco, Cal.
217,495	Manufacture of Bessemer Steel	Sidney G. Thomas	County of Surrey, England.
217,523	Preventing Crystallization and Blow-Holes in Casting Metals and the Alloy	Theodor Fleitmann	Iserlohn, Prussia.
217,525	Grate-Bar for Furnaces	J. C. Furness	Boston, Mass.
217,526	Pumping-Engine	Harvey F. Gaskill	Lockport, N. Y.
217,537	Rolling-Mill	Daniel N. Jones (b)	Johnstown, Pa.
217,540	Means for Rendering Valve-Spindles Steam-Tight	Alexander Kerr (c)	Montreal, Que.
217,561	Speaking-Telephone	Thomas A. Watson	Boston, Mass.
217,600	Hoisting-Machine	John Fensom	Toronto, Ont.
217,617	Electric Motor	James Hoover	Gratis, Ohio.
217,626	Automatic Pump	William Lyman	Middlefield, Conn.
217,653	Mill for Rolling Metal	James H. Swett	Pittsburg, Pa.
217,654	Fuel-Feeder for Furnaces	Henry Swindell	Alleghany, Pa.
217,656	Steam-Engine	Henry A. Walker	Charlotte, N. C.
217,665	Vapor-Engine	William P. Wood (d)	Washington, D. C.

(a) Assignor of one half his right to John Calvert, same place.
(b) " to himself and the Cambria Iron Co.
(c) " of one half his right to Lyon Silverman, same place.
(d) " of one third of his right to Israel R. Blumenberg, same place.

STATISTICS OF COAL PRODUCTION.

This is the only Report published that gives full and accurate returns of the production of our Anthracite mines.

Comparative statement for the week ending July 19th, and years from January 1st:

TONS OF 2240 LBS.	1879. Week.	1879. Year.	1878. Week.	1878. Year.
Wyoming Region.				
D. & H. Canal Co.	80,348	1,697,450	52,669	1,026,347
D. L. & W. RR. Co.	82,470	1,901,271	50,100	1,017,948
Penn. Coal Co.	33,144	750,253	16,890	400,115
L. V. RR. Co.	31,237	521,405	25,144	420,749
P. & N. Y. RR. Co.	1,153	15,991	865	15,173
C. RR. of N. J.	45,258	963,254	22,187	448,264
Penn. Canal Co.	8,663	182,920	17,266	136,661
	282,273	6,032,544	185,081	3,465,257
Lehigh Region.				
L. V. RR. Co.	68,791	1,699,103	62,014	1,238,613
C. RR. of N. J.	38,615	1,095,430	45,862	636,737
S. H. & W. B. RR.	.....	13,435	769	14,723
	107,406	2,807,968	108,645	1,890,073
Schuylkill Region.				
P. & R. RR. Co.	167,454	3,843,543	195,347	2,291,279
Shamokin & Lykens Val.	*	408,289	20,382	364,798
	167,454	4,251,832	215,729	2,656,077
Sullivan Region.				
Sul. & Erie RR. Co.	690	28,185	591	17,111
Total	557,823	13,120,529	610,046	8,028,518
Increase	.....	5,092,011	.....	.....
Decrease	55,223	.....	.....	.....

* This report was not received this week.

The above table does not include the amount of coal consumed and sold at the mines, which is about five per cent of the whole production.

Receipts and shipments of coal at Chicago Ill., for the week ending July 19th, and year from January 1st:

	Week. Tons.	Year. Tons.
Receipts	57,340	1,135,177
Shipments	8,143	224,977

The increase of shipments of Cumberland Coal over the Cumberland Branch, and Cumberland and Pennsylvania railroads, amounts to 61,698 tons, as compared with the corresponding period in 1878.

Belvidere Delaware Railroad Report for week ending July 19th:

	Week.	Year. 1879.	Year 1878.
Coal for shipment at Coal Port (Trenton)	295	6,164	3,726
Coal for shipment at South Amboy	8,380	261,149	6,161
Coal for distribution	2,036	175,462	85,205
Coal for Company's use	2,755	47,423	3,152

Statement of Coal Business at Fair Haven for the week ending July 19th:

	Tons.
Receipts	.....
Shipments	.....
On hand July 19th	34,900

The Production of Bituminous Coal for the week ending July 19th was as follows:

Tons of 2000 lbs., unless otherwise designated.

	Week. Tons.	Year. Tons.
Cumberland Region, Md.		
Tons of 2240 lb	44,131	825,457
Barclay Region, Pa.		
Barclay R. R., tons of 2,240 lbs	4,632	184,704
Broad Top Region, Pa.		
Huntingdon and Broad Top R. R.	2,461	75,985
*East Broad Top	983	32,741
Clearfield Region, Pa.		
*Snow Shoe	1,484	17,451
*Tyrone and Clearfield	37,551	669,304
Alleghany Region, Pa.		
*Pennsylvania R. R	3,080	86,246
Pittsburg Region, Pa.		
*West Penn R. R.	3,485	92,595
*Southwest Penn. R. R.	771	18,651
* Penn & Westmoreland gas coal, Pa. R. R.	11,278	359,398
*Pennsylvania R. R.	9,232	214,967

*For the week ending June 21st.

THE COAL TRADE REVIEW.

NEW YORK, Friday Evening, July 25, 1879.

Anthracite.

The seven days just past have been very quiet ones for the coal trade, and prices show considerable weakness. It is very easy to secure coal at the average of the last auction sale.

The Knights of Labor picnic has taken place without so much as attracting outside attention.

A number of the collieries in the Hazleton region have resumed work, and it now looks as though no stoppage would occur. The miners, however, are still very independent and restless, and have to be handled with the greatest care. They are receiving no encouragement to strike, as the fear exists that nothing more than a local disturbance could be created, which would result to the advantage of those collieries which continued to work. It has been current rumor for a week past that the Reading Company will advance the tolls on its road on the 1st ult., and thereby advance miners' wages.

It is almost entirely the impression among the trade that, unless something occur to limit the production during at least the next 30 days, prices must go lower than they have been at any previous time. For the time being, dealers and consumers are well supplied with coal, and will not come forward so long as they see an immense production kept up. Of course, a very good fall demand is looked for; but it will not help the companies during August unless their prices become so low as to make it a good speculation for buyers to purchase. A very good demand from the West and the iron-manufacturing districts exists. Additional furnaces and rolling-mills are steadily going into blast, and the consumption of anthracite coal by the iron industry will be much greater during the last than the first half of this year. Should there be no check to the revival of general business, there will be a larger amount of anthracite coal purchased in 1880 than in any previous year.

The Delaware, Lackawanna & Western RR. Co.

will sell 50,000 tons of coal at auction next Wednesday. That so small a quantity is offered, is looked upon as favorable to the trade, as it is more easy to control the prices, and it is believed they will be controlled.

The production of anthracite coal last week was 557,823 tons, as compared with 452,458 tons the previous week, and 610,046 tons the corresponding week of 1878. The total production from January 1st to July 19th was 13,120,529 tons, as against 8,028,518 tons for the like period of last year, showing an increase this year of 5,092,011 tons.

Bituminous.

Nothing but the same monotony that has been reported for weeks can be noted at this time. The only encouraging feature is, that the production still shows favorably as compared with last year.

The Cumberland & Pennsylvania Railroad Company, after three weeks' effort to thwart the Pennsylvania Railroad, in Maryland, in making a crossing, was defeated on the 18th inst. The public sentiment was very strong against the Cumberland & Pennsylvania Company, and it was with difficulty that acts of violence were prevented, although the officers of the Pennsylvania Railroad in Maryland made every effort to maintain peace. Of course, efforts will be made, wherever possible, to cause delay in the construction of this road, and also the George's Creek & Cumberland Railroad; but it does not seem possible that any thing can prevent their completion in good time for the enjoyment of next season's business.

President Gorman, accompanied by several prominent citizens, last week made a tour over part of the Chesapeake & Ohio Canal. He is reported by the Baltimore *Sun* correspondent as thus expressing himself on the occasion in regard to canal extension to Baltimore:

"Mr. Gorman says that it is the settled policy of the directory to reach tide-water at Baltimore by the long-contemplated branch of the canal, *via* Jessup's Cut, to the Patapsco. The Maryland House of Correction was built at Jessup's so as to have the convicts of that institution accessible to this work. When the labor of the prisoners is more available than at present, they will be set to work to dig the canal. When the size of the locks of the main canal is doubled and this branch completed, it is believed that Cumberland coal, sufficient to supply the manufactures and steam vessels of the world, may be delivered at tide-water in Baltimore cheaper than anywhere else."

Pittsburg. July 24, 1879.

COAL.—Nothing has occurred during the past week, to disturb the prevailing dullness in all departments of this industry. It is a season when consumption is slightest, and when general business is slack; in addition, continued low water embargoes the heavy shipments of coal now on board awaiting a freshet in which to reach the destined markets. The craft being all loaded, no empties are left to be filled, which stops mining, and deprives the miners of work. This stoppage has been already of unusual duration, and its continuance is an unknown dismal time to the thousands of workmen and their suffering families. Taking advantage of this non-usage of their works, the navigation company has entered upon repairs to its second dam, which will require thirty days, and must close the region to the coal operators during that period. This adds gloom to the dark prospects of the miners. Coal is growing scarce in some of the markets—we mean Pittsburg coal. At Cincinnati, they have some 700,000 bushels in the yards. At Louisville, there is none. New Orleans is stocked for several months, but at most of the river points dependence is upon the Pomeroy and Kentucky coal, the Kanawha region being closely shut up by low water. By a prudent forecast, none of the gas factories on the river using Pittsburg coal (they all use it) are short, all having stocks in hand to last several months, and some until spring. Their aggregate annual consumption is about 8,000,000 bushels. Of this, the works at Cincinnati require 2,000,000; the St. Louis old gas-works, 1,500,000; Laclede works, at same place, 600,000; works at Louisville, 600,000; at New Orleans, 1,500,000; Memphis, 400,000; Vicksburg, 40,000; Helena, 30,000; Natchez, 15,000. Beside these, there are werks at St. Paul, Minneapolis, Quincy, Mobile, Galveston, and other places, all using Pittsburg coal. Quotations are unchanged, and are likely to remain so, until we have high-water navigation.

PRICES AT PITTSBURG.

Wholesale, on board. 4 cts. per bushel, $1.06 per ton
Retail, delivered. ...6@ 7 " " 1.85 "

AT CINCINNATI.

Wholesale, on board.....10 cts. per bushel, $2.65 per ton
Retail, delivered.....12 " " 3.18 "

AT LOUISVILLE.

Wholesale, on board.....11 cts. per bushel, $2.92 per ton
Retail, delivered..... ..15 " " 3.97 "

AT NEW ORLEANS.

Wholesale, on board.....50 cts. per barrel, $4.83 per ton
Retail, delivered.....65 " " 6.28 "

Bushels are rated among dealers here at 76 lbs.—26⅓ bushels make a ton of 2000 lbs. nearly.

The barrel that rules the coal measurement in New Orleans contains 2 4-7 bushels of 80 lbs. each, making about 200 lbs. Nine and two thirds of these barrels weigh a ton, within a small fraction.

COKE.—There is scarcely any business less affected by the pervading dullness of summer times than the coke trade. As it goes on in the Connellsville region, the demand may be a little slack at present, but not enough so to decrease the volume of production, which, it is apparent by more ovens being wanted, has been below current reements. At present, the manufacture of 30,000 tons a week goes on, and it is all taken up by the trade. This fall, several hundred new ovens will come into use, built by men who know what they are about, which will add several hundred tons to the weekly production, and meet increasing demand already foreshadowed. Prices remain steady. We quote as before—$1.15@$1.30 per ton of 2000 lbs. on board cars at ovens.—*American Manufacturer.*

FREIGHTS.

Coastwise Freights.

Per ton of 2240 lbs.

Representing the latest actual charters to July 24th, 1879.

PORTS.	From Philadelphia.	From Baltimore.	From Elizabethport, Port Johnson, South Amboy, Hoboken and Weehawken.
Alexandria	75	75	
Annapolis, Md			
Apponaug			
Augusta, Me		1.50	
Baltimore	50@60		
Bangor			
Bath, Me			
Beverly	1.25		
Boston, Mass	1.20@1.25	1.50	
Bridgeport, Conn.		1.30	
Bristol	1.15		
Brooklyn			
Cambridge, Mass.			
Cambridgeport			
Charleston	95@1.00		
Charlestown			
Danversport			
East Cambridge			
E.Gr'nwich,R. I.			
Fall River	1.10		
Fredericksburg			
Gloucester	1.25		
Hartford	1.40	1.90	
Hingham			
Hyannis			
Key West			
Lynn	1.25@1.40†		
Marbleh'd, Mass.	1.25		
Medford	1.65		
Milton			
Nantucket			
Newbern, N. C	75		
New Bedford	1.15		
New Brunswick			
New Castle, Del.			
Newburyport		1.60	
New Haven		1.30	
New London		1.30	
Newport			
New York	80@85	1.30	
Newark			
Norfolk, Va	60	50	
Norwich	1.15‡	1.30	
Norwalk, Conn		1.35	
Pawtucket	1.25‡		
Petersburg	85		
Plymouth	1.43		
Portland	1.20@1.25	1.40	
Portsmouth, Va.			
Portsmouth, N.H.	1.30	1.50	
Providence		1.30	
Provincetown	1.50		
Quincy Point			
Richmond, Va	75		
Rockland			
Rockport			
Saco			
Sag Harbor			
Salem, Mass	1.25		
Saugus			
Savannah	1.15		
Somerset			
St. John, N. B.			
Stamford			
Thomaston	1.60		
Trenton		90	
Troy			
Wareham		1.45	
Washington	75@80	75	
Weymouth			
W'imington, Del.		50	

* And discharging and towing. † And discharging. ‡ And towing. § 3 cents per bridge extra. ‖ Alongside. ¶ And towing up and down.

IRON MARKET REVIEW.

NEW YORK, Friday Evening, July 25, 1879.

American Pig.—The market is gaining in strength each day. The inquiry is quite large, and we note sales of 2000 tons of No. 2 Foundry, and 3000 tons Forge, all Thomas Iron Company's iron, at $18 and $17, respectively. The same company was compelled to refuse bids to-day for 10,000 tons at same prices. Buyers still hesitate to pay the advanced prices, but makers show no great anxiety to force their products. No. 1 Foundry iron, of good quality, can not be had for very prompt delivery. No. 2 Foundry is not plenty. We quote No. 1 Foundry at $19@$20; No. 2 Foundry, $18; and Forge, $17.

Scotch Pig is very quiet. Prices are held more firmly. Freights have advanced from nothing to 5s. per ton. We quote Eglinton at $18.50@$19; Coltness, $22; Glengarnock, $19.50@$20; and Gartsherrie, $20. The exports of iron from Great Britain to the United States, for the first six months of this year, were 25,288 tons, as against 12,612 tons for the same period last year. It might be supposed by many that this was all Scotch pig; but such was not the case, as a large proportion was spiegeleisen.

Rails.—Sales of 15,000 tons of steel rails, for December, January, February, and March delivery, are reported, while it is supposed additional orders amounting to from 15,000 to 20,000 tons, for delivery between March and October next year, have been placed; 5000 tons were sold last week, at $45, at Philadelphia, for winter delivery. We quote at tide-water at $46@$47. We note sales aggregating 2000 tons of iron rails, for delivery here in August and September, at $39.50@$40.50, while there are rumors of other sales, which we have been unable to confirm. We quote at $40, at tide-water.

Old Rails.—Sales of 13,000 to 14,000 tons of English rails have been made during the week. We quote at $25.

Wrought Scrap is dull, and quoted at $23.50@$24.

We publish the following letters from our regular correspondents:

"BALTIMORE, July 21, 1879.

"The iron market remains about the same as at last report. Demand active and prices for all grades have an upward tendency."

"LOUISVILLE, KY., July 22, 1879.

"The demand shows no abatement, and the tendency of prices is to outside figures. Sellers are decidedly firmer in their views, and buyers are obliged to meet them."

"PITTSBURG, July 22, 1879.

"The market continues active and advancing; good standard brands of iron having sold fully half a dollar per ton higher than prices quoted in last report."

"RICHMOND, VA., July 21, 1879.

"While no especial advance is noticeable over prices of preceding month, still the market is very firm, with sales of about 400 tons old rails and 800 tons foundry and gray forge pig iron at full quotations."

"ST. LOUIS, July 21, 1879.

"We quote old rails at $23@$24, with none offering; pig-iron, from 50c. to $1 per ton advance over prices last quoted."

Messrs. William M. Cox & Co., of Chicago, writ July 21st, 1879:

"No change in market quotations since last report cept a firmer feeling and a disposition to confine sales *immediate* delivery."

Philadelphia. July 24, 1879.

[Specially reported by JUSTICE COX, JR., & CO., Iron Merchants, 333 Walnut street, Philadelphia.]

Pig-Iron.—There is not a furnace company that would accept present prices for the balance of the year on pig-iron. All feel assured of at least a dollar advance before October 1st. We report the demand good, and quote: No. 1, $19@$21; No. 2, $18@$20; Gray Forge, $17@$18; all Philadelphia.

Manufactured Iron.—The good time looked for has come for all rolling-mills, as far as orders go; but as to profit, they are not making as much money as two months back, as the advance in pig-iron and wages will more than consume the small advance in the price of manufactured iron. We report all mills making bars, plates, or skelp, with more orders offering than they can take care of, and prices have advanced fully 2-10 of a cent. We quote bars 2@2 2-10c.; plate and tank, 2½@6¼c.

Old Rails.—The market continues bare of old rails, and $25 is asked. We quote $24.50@$25.50.

New Rails.—Nothing new to report in steel or iron rails. All mills making rails have all the work they can do. We quote: Steel, $43@$46; iron, $40@$45; all at mills.

Scrap.—Wrought is quoted $24@$25; cast, $14@$16.

METALS.

NEW YORK, Friday Evening, July 25, 1879.

There has been a good jobbing business in most metals, but no large transactions. There has been more inclination to weakness, but it only looks temporary.

RECEIPTS OF METALS AT NEW YORK FOR THE WEEK ENDING JULY 24TH AND YEARS FROM JANUARY 1ST, 1878 AND 1879.

	1879.		1878.	
	Week.	Year.	Week.	Year.
Copper, bbls.	39	8,388	820	12,635
Copper, boxes				113
Copper, cakes	693	15,743	11	9,539
Lead, pigs	2,238	108,153	6,575	190,511
Spelter, pieces		61,394	1,000	28,531
Quicksil'r, flasks		4,625	100	783

Copper.—This article continues to be very quiet at 16⅛@16¼c.

London advices of July 11th say:

"The market is in much the same position as yesterday, with a fair business doing, but no details given. At £54½ there are still buyers of good-named brands of Chili bars, and no further sellers at that price, except of what are known in the trade as 'G. O. B.'s,' and which can yet be obtained, in moderate quantities, at said figure. Values, however, are difficult to fix with precision, owing to the sensitive state of the trade, but the following may be taken as the approximate rates: G. O. B.'s, £54¼@£54½; named and favorite marks, £54⅛@£55; best sorts, £55@£55½. A small sale of Wallaroo cake made at £61, and further sellers at £61½. Burra nominal at £61⅛@£62. English

quiet; tough cake, £58½@£60; select, £30@£61; India sheets, £64@£64½; other sheets, £64½@£65½; yellow metal sheets, 5½d.@5⅝d. ℔ lb.

London advices of July 14th say:

"There was scarcely any thing doing on Saturday last, and the only business then reported consisted of 25 tons Chili bars, best brand, at £55 cash. To-day we hear of charters for the past fortnight, which comprise 1650 tons bars and ingots, 300 tons pure in furnace material for England; 50 tons bars for France.

	1879. Tons.	1878. Tons.	1877. Tons.	1876. Tons.
Charters, January 1st to June 30th	25,966	22,368	21,700	21,553
Charters, first half July	2,000	2,293	2,257	1,610
Shipments, January 1st to June 30th	24,342	22,082	24,482	25,694
Shipments, June only	4,000	2,714	3,983	3,995

Price at Valparaiso on 11th inst. was $17.10; exchange, 31½d.; and taking steamer, freight 60s. This would give £55½ at Liverpool, but without any commission to merchants either side. Although bars were a little more offered to-day, yet the demand was a trifle better, and we note sales of about 200 tons at £54½ for good-named brands, £54¾@£55 for favorite and special marks. G. O. B.'s might, perhaps, have been obtained on rather easier terms, but no quotation was openly made for them below £54½. Pending our sale by auction to-morrow of 1146 tons of Wallaroo Cake, there is nothing doing in Australian."

Advices of the 15th say:

"The Wallaroo offered to-day by public auction was withdrawn at £60, and at this figure the importer is still willing to sell the whole quantity of 1146 tons, but has refused to part with a portion thereof at said price. The present stock of that metal in London is 4761 tons, of which 1177 tons in second hands *ex* previous sales, 32 tons old stock, and the balance in the hands of the importer. We did not hear of any transaction in Chili Bars, except a parcel of about 50 tons best brands, the terms of which did not transpire. G. O. B.'s are quoted at £54@£54¼; favorite marks £54½@£55; best, £54¾@£55¼, and difficult either to purchase or sell at the nominal rates. English remains in about the same position as yesterday, but smelters seem rather more inclined to meet the market."

Tin.—London cables £64 10s., for Straits, and Singapore $19.62½, with exchange at 3s. 9½d., and a downward tendency. We learn of no business in this brand, which is quoted at 14⅝@14¾c. L. & F. is quoted at 14½@14¼c.; Refined, 15c.; and Banca, 17½@17¾c.

London advices of the 15th inst. say:

"Very little doing, though price of Straits and Australian is tolerably steady at 64¾s. cash, and at which there is a small quantity reported."

Tin Plates.—In these there has been a good jobbing demand, but no large sales. We quote, per box, as follows: Charcoal, bright, Melyn grade, ⅛ X, at $6¼@$6½, and Allaway grade, $5.75; charcoal ternes, Allaway grade, $5.50; coke, bright, B. V. grade, $4.95@$5; and coke roofing, 14×20, $4.95 @$5.

Messrs. Robert Crooks & Co., of Liverpool, under date of July 10th, say of tin and terne plates:

"Though demand is very light, prices have not broken at all during the past few days, and, in view of the meetings held yesterday and to-day at Gloucester and Birmingham, are not likely to for some little time. As a rule fall demands begin at end of next month, and if this obtains this season with the limited output, we shall have no lower rates for the next two months. A great deal depends, therefore, on the question whether or not the large shipments early in the year have or have not been absorbed."

Lead.—There has been a pressure of outside lots, which has confined the business to small transactions at 4·05@4·07½c. The closing price is 4·10c. The outlook is favorable to a good demand during the next three months. The stocks here are estimated to be reduced to 6000 tons, while there are but about 1100 tons on the way here from California, and barely a chance of further shipments that can reach here before October 1st. From other sources, a product of not more than 4500 tons, with that in transit, can be expected, so that the stocks here must be very largely reduced.

Mr. J. B. Meader reports a falling off in the Utah shipments of lead of 6,494,090 lbs. for the first six months of this year, as compared with the corresponding period of 1878.

Spelter and Zinc.—Spelter is dull, and quoted at 4¾c. The manufacturers of sheet zinc advanced their prices 10c. per cwt. yesterday. We quote at 6⅝c.

Antimony is quoted, according to brand, at 11⅜ @12c.

Quicksilver.—The San Francisco *Commercial Herald* of July 17th says of the market: "The schooner Teutonia, for Mazatlan, carried 1900 flasks. The Belgic, for Hong Kong and Shanghai, carried 2508 flasks. The market is quiet at 33½c. An editorial in the *Alta California* of July 14th has this to say about this staple article. We dissent from some of the statements made, yet we conclude to give the item entire, remarking that current low prices are causing a very large increased consumption in the arts both in China, Japan, and elsewhere, while of late we have been shipping off more than we produced, giving some the idea of a probable rise ere long: 'The supply of quicksilver exceeds the demand, or, at least, is larger in proportion to the demand than ever before, and the price has fallen to 33 cents a pound, twenty per cent less than ever before. The chief producers of the metal are California, Spain, and Austria—the last two having only one notable mine each. The Almaden and Idria mines are worked with much skill, special reference to profit in the long course of years, and abundant capital. There is no sacrifice of the future for the sake of immediate results. Both mines have immense bodies of ore in sight—enough to last for ten years—and they want to keep so far ahead of the furnaces. While the European quicksilver mines are steady and economical in their production, the Californians have been working irregularly and extravagantly. Most of our mines have not enough ore for a year's run in sight. The managers generally have been anxious for immediate results. They were anxious to throw their metal into the market at the earliest possible moment. The consequence is, that they are making 600 flasks (450,000 pounds) a month, whereas the world has been in the habit of taking only two thirds as much from them, and would pay nearly or quite as much for 4000 flasks as it does for the 6000. Very decided improvements in the methods and facilities of extraction and reduction have been made within the last twenty years; but the average yield of the ore has been decreasing, so that there is nothing to justify the destructive method of working. It may be said that the general rule of California mine management has been that the capacity of the reduction works should be sufficient to exhaust the ore in sight within two years; and, generally, indeed, there has been no care to have even a year's supply in sight. The more common practice is to live from hand to mouth; open up the mine only far enough in advance to see that the miners would have ore for the next month, and trust to luck, assessments, and the forbearance of ignorant stockholders and speculators for support. This policy has prevailed much more extensively in silver than in quicksilver, and is very injurious to the true mining interests of the Slope. Not only is there no proper care to have a large stock of ore in sight, sufficient to pay dividends for years, but, as a natural consequence, there are no explicit and well-authenticated statements in the annual reports of the amount of ore in sight, even when the quantity is large and the quality rich. The average annual yield of the New Almaden for the last four years has been 18,000 flasks; Sulphur Bank, 9500; Redington, 8000; Guadalupe, 6500; and the Great Western, 4700; these being the leading mines in our State. A dozen others, with smaller figures, follow."

The total exports by sea from January 1st to July 17th, 1879, were 24,551 flasks, against 16,099 flasks for the same period last year, showing an increase of 18,452 flasks. The receipts to June, 1879, were 33,630 flasks, against 26,807 flasks for the same period last year, showing an increase of 6823 flasks.

THE BULLION MARKET.

NEW YORK, Friday Evening, July 25, 1879.

The silver market has been dull and heavy the past week, with a tendency to lower figures. There has been little or no demand, some small orders having been received in London from the Continent; but the exchanges with the East Indies continue unfavorable to specie shipments. An advance is not probable until there are shipments to the East Indies.

DAILY RANGE OF SILVER IN LONDON AND NEW YORK, PER OZ.

DATE.	London Pence.	N. Y. Cents.	DATE.	London Pence.	N. Y. Cents.
July 19	51⅝	112⅞	July 23.	51⅛	112¼
July 21	51 9-16	112⅝	July 24.	51 7-16	112¼
July 22	51⅛	112¼	July 25.	51⅛	112¼

BULLION SHIPMENTS.

We give below a statement showing the latest bullion shipments, in addition to those announced in our issue of July 19th:

July 6th	California	$47,349.00
" 7th	Indian Queen	4,551.00
" 7th	Northern Belle	2,734.00
" 8th	Standard	40,795.00
" 9th	Bodie	12,881.00
" 9th	Martin White	5,995.57
" 9th	Northern Belle	2,409.40
" 9th	Eagle	1,380.00
" 12th	California	46,658.39
" 12th	Consolidated Virginia	25,492.37
" 13th	Bodie	11,700.00
" 13th	Tiger	17,000.00
" 14th	Belle Isle	39,000.00
"	Independence	19,300.00
"	Tip Top	30,200.00
	Alexander	5,700.00
	Star	5,200.00

For the week ending the 14th instant, the Bodie mine shipped $33,213, and the Standard, during the same period, $43,147—a total for both mines of $76,360.

Boulder (Colo.) Bullion.—There was shipped $7389 in bullion, from Boulder, for the week ending the 17th inst.

Eureka Consolidated Shipments.—The shipments of bullion by the Eureka Consolidated Mining Company, for the week ending the 12th inst., amounted to 460,070 pounds.

Silver Reef Bullion.—The bullion shipments from Silver Reef, Utah, for the week ending the 12th inst., amounted to $21,833.50.

The bullion shipments from Butte, Montana, for the week ending July 14th amounted to $25,072.

The bullion product of the United States for the current year is estimated by our Pacific Coast contemporaries at $67,000,000, of which amount $32,000,000 will be gold.

Bonanza Bullion Shipments.—Following is an official statement of the ore-product and milling operations at the bonanza mines for the week ending July 12th, as compared with the week previous:

Consolidated Virginia:	Previous week.	Last week.
Extracted, tons	838	794
Delivered to mills	838	794

The final bullion shipment for June account was made from the Con. Virginia mine—$25,492.37, and the total for the month was $127,007.81.

California:	Previous week.	Last week.
Extracted, tons	1,044	675
Delivered to mills	1,044	675

The California shipped bullion on the 12th valued at $46,658.39, making a total for June account of $185,969.10.

The total production of the Ophir mine, since crushing the ore of the new veins began, to date, is $792,938.

The Coin Balances of European Countries.—The coin and bullion in the Bank of England on the 1st day of July, 1879, reached $175,717,500, the largest amount ever massed there. At the same time, the Bank of France held nearly $450,000,000, and the Bank of Germany $140,000,000. Nothing is more significant of want of confidence and stagnation.

Exports of Gold and Silver from New York.

Week ending July 19th	$157,598
Corresponding week last year	71,480
Since January 1st this year	11,273,778
Corresponding period last year	8,585,303

Gold Interest Paid Out by the Treasury.

Week ending July 19th	$808,910
Corresponding week last year	724,900
Since January 1st this year	38,801,985
Corresponding period last year	37,993,075

The rumors respecting the practical re-adoption by the German government of the mixed gold and silver standard is confirmed by the President of the National Bank telling the committee that silver sales have not been merely suspended, but absolutely discontinued. In keeping with this announcement, the old thaler pieces are being plentifully re-issued. The quantity of silver thus indefinitely kept in circulation beyond the sum fixed by law, amounts to about 500,000,000 marks.

Secretary Sherman has directed the United States Treasurer and the national bank depositaries to pay out silver dollars the same as other lawful money.

The coin balance of the United States Treasury on the 1st inst. amounted to nearly $127,600,000.

Bullion for the Government.—WASHINGTON, July 24.—The weekly offerings of silver bullion to the government were opened at the Treasury Department on Wednesday. All offers made by bullion-dealers from the Pacific Coast were at prices which the Department regarded as above the market rate, and were declined, but in declining them the department offered the bidders what was believed to be the full market rate. To-day dispatches were received from all the parties to whom offers were made declining to sell at the price named; therefore no silver has been purchased this week for delivery at the Carson and San Francisco mints. Between 200,000 and 300,000 ounces were purchased for delivery at the Philadelphia Mint. It is intimated that, owing to the Department's inability to procure bullion for delivery at the San Francisco and Carson mints at market rates, it will be necessary to run the Philadelphia Mint to its full capacity for coining silver dollars. It is understood that the department has a good stock of bullion at Philadelphia, and no difficulty is apprehended in getting bullion for delivery at that mint.

Since the act authorizing the redemption of subsidiary coins at the various Sub-Treasuries went into operation, there have been $4,270,000 of these coins received for redemption. The amount of subsidiary silver outstanding on June 30th was $39,360,000.

Salt Lake Ore and Metal Market.

SALT LAKE CITY, UTAH, July 12, 1879.

Mr. J. B. Meader, under date of July 12th, 1879, reports the following shipments:

Shipments of base bullion for June		2,505,882 lbs.
" " " five months		12,783,054 "
Total for six months		15,288,936 "
Shipments lead (Germania refined) in June,		362,816 "
Ore shipments for June reduced to lead	90,920	
Ore shipments for five months	806,360	
		897,280 "
Total shipments of lead for six months, 1879		16,549,032 "
Same time for 1878		23,043,122 "
Decrease in 1879		6,494,090 "

FINANCIAL.

Coal Stocks.

NEW YORK, Friday Evening, July 25, 1879.

Outside of Delaware, Lackawanna & Western the sales in this market have been somewhat meager. Prices have been rather inclined to weakness. The sales of Delaware & Hudson Canal have amounted to 3060 shares, at 48¼ @ 47⅝. Delaware, Lackawanna & Western advanced to 60⅛ on Tuesday, but closed at 59½ to-day. The sales for the week aggregated 159,966 shares. New Jersey Central recorded 53¾ on Saturday, 52 on Monday, and closed at 52½ to-day, with total sales for the week of 17,930 shares. In the shares of the Cumberland companies there have been no transactions, nor have there been in Pennsylvania Coal Co.

The Philadelphia market has been, as a whole, quiet. In Reading there has been a liberal business at stronger prices, the sales amounting to 23,357 shares, at $19⅛@$20. Pennsylvania RR. records sales of 26,931 shares, at weakening prices, selling from $40⅝ @$39⅞. The dealings in Lehigh Coal & Navigation Co. have amounted to but 438 shares, at $24¾@$24¼, and Lehigh Valley RR. to 674 shares, at $42@$41¼.

Pennsylvania Railroad Company.—At a recent meeting of the directors of this company, the purchase of the Malvern branch of the West Chester Railroad, for which negotiations have been for some time in progress, was approved. The road is to be immediately put in first-class order. It is about nine miles long, and runs from Malvern Station, on the Pennsylvania Railroad, to West Chester.

Delaware, Lackawanna & Western Railroad Company.—The friends of the Delaware & Lackawanna Company represent that the earnings of this road are now fully sufficient to cover all expenses, and with the already in-

COAL STOCKS.

NAME OF COMPANY.	Capital Stock.	SHARES. No.	SHARES. Par Val.	Last Dividend. Mo.	Y.	A't.	Rate per Ann.	Quotations of New York stocks are based on the equivalent of $100. Philadelphia prices are quoted, so much per share. July 19. H.	L.	July 21. H.	L.	July 22. H.	L.	July 23. H.	L.	July 24. H.	L.	July 25. H.	L.	SALES.
	$		$				Per c'nt													
Consol. Coal.	10,250,000	102,500	100	Jan.	77	2½	....													
Del. & H. C..	20,000,000	200,000	100	Aug	76	4	9	48¼	47⅛	48¼	48	48⅛	48	48¼	47⅞	48⅝	47⅝	.....	....	3,000
D., L.&W. R.R.	26,000,000	524,000	50	July	76	2½	5	59¾	59¼	59⅞	59⅛	60⅛	58⅞	59⅜	58⅞	59⅝	59	59⅝	59	159,966
Lehigh C.& N.	10,148,950	208,971	50	Nov	76	1½	5¼	24⅜	.....	24⅜	24¼	.....	.....	.....	.....	24½	.....	24⅝	24¼	438
Leh. V'y R. R	27,228,855	540,858	50	J'ne	79	1	4	41⅞	41¾	42	41¾	41⅞	41¾	41⅞	41¼	41½	41¼	41⅜	41¾	674
Maryl'd Coal	4,400,000	44,000	100	Jan.	76	1½	1½	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
N. J. C. R. R.	20,000,000	200,000	100	Apr	76	2½	2½	53¾	53⅜	53⅝	53	53¼	52¼	53¼	52⅜	52⅞	52⅜	52⅞	52¼	17,930
Penn. Coal...	5,000,000	100,000	50	May	78	3	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Penn. R. R..	68,870,200	1,337,404	50	May	79	2	8	40⅛	40¼	40⅝	40¼	40⅜	40¼	40¼	39⅞	40	39¾	40	39⅞	26,931
Ph. & R. R. R.	34,278,175	685,563	50	Jan	76	+2¼	10	19¼	19⅛	19⅜	19¼	19¾	19⅜	19⅞	19½	20	19½	19¾	19¾	23,357

The Delaware & Hudson Canal Co. has paid in dividends to date $38,821,104, and the Philadelphia & Reading $43,012,497
Total Sales.....232,356.

creased demand for coal, and probable advance of 50 cents per ton within a short time, the Delaware & Lackawanna Company will be able to pay something on the stock this year.

Miscellaneous Stocks and Quotations.

Sales and quotations of the stocks and bonds dealt in here, at Philadelphia and Baltimore, for the week ending the 25th inst. are given in the following tables. The Philadelphia quotations will have a * affixed. The Baltimore quotations are indicated thus †.

STOCKS.	Par Value.	High'st	Lowest	Closing	Sales: Shares.
American Coal Co.	$25	33	.....	.....	100
St.L.,I.M.& S.R.Co..	100	26¼	24¼	.....	†3,500
Spring Mt. Coal Co.	50	....	.....	.....	.....
*Cambria Iron Co..	50	.....	.....	.....	.....
*Penn. Salt Mf'g Co.	50	.....	.....	.....	.....
*Westm'land C. Co.	50	.....	.....	.....	.....
*Buck Mt. Coal Co..	50	.....	.....	.....	.....
*Schuyl. Nav. Co...	50	.....	.....	.....	.....
†B.&O.RR.Co.1st pf	.....	.....	.....	.....	.....
†B.&O.RR.Co.2d pf	100	101	.....	101	133
" " " " com	90	120½	115	115	299
†George's C'k C. Co	100	.....	.....	.....	.....
†S. Clara M'g Co...	100	.....	.....	.....	.....
†Atlantic Coal Co..	10	80c.	.....	.....	400

BONDS.	Princ'l. When Due.	Int'est. When Due.	Hig'st.	Lowest.	Amount.
D., L. & W., 7s, conv	1891	J. & D.	.....	.....	....
" " " " 2d mtge.	1882	M. & S.	106½	.....	$2,000
N.J.C.,1stmtge.new	1890	F. & A.	.....	.....	.....
" " " 1st mtge.,con	1899	Q.	99	98	†227,000
" " " convt.....	1902	M. & N.	99¼	99	†26,000
Lehigh & W. B., con	1899	Q.	80½	74½	‡994,000
Am. Dock & Imp. 7s	.....	J. & J.	.....	.....	.....
St.L.I.M.& S..1st mt	1892	F. & A.	116½	116⅜	12,000
Ches. & O., 1st mtge	1899	M. & N.	.....	.....	.....
D & H C Co.,1stm.rg	1884	J. & J.	102¾	102	38,000
" " " " "	1891	J. & J.	102½	101¾	18,000
" " " " " m.loan cp	1894	A. & O.	105½	.....	2,000
" " " " " rg.	1894	A. & O.	104¼	104½	16,000
" " " " " new mge.	.....	.....	.....	.....	.....
*L.V.R.,1stm.6s.cp.	1898	J. & D.	.....	.....	.....
" " " " rg.	1898	J. & D.	116	....	2,000
" " " 2d m. 7s,rg.	1910	M. & S.	.....	.....	.....
" " " con.m.6s,rg	1823	J. & D.	107	106¾	14,000
" " " 6s cp.	1923	J. & D.	107	.....	5,000
*Pa.RR.,1st m.6s,cp	1880	J. & J.	103	.....	3,000
" " g. m., 6s, cp.	1910	J. & J.	115	.....	4,000
" " " 6s, rg.	1910	A. & O.	.....	.....	.....
" " con.m.6s,rg.	1905	Q.	110¼	.....	2,000
" " " 6s, cp.	1905	J. & D.	107	.....	5,000
" " new loan, 5s	.....	.....	111¾	.....	3,500
*P.& R. R., 1st m. 6s, R. C. 43-44.....	1880	J. & J.	103¼	....	5,000
P. & R. R., 1st m. 6s, R. C. 48-49.....	1880	J. & J	.....	.....	.....
P.& R. R.,2d m.7s cp	1893	A. & O.	.....	.....	.....
" " " scrip....	1882	J. & J.	71	67½	6,855
" " " in.m.7s,cp	1896	J. & D.	70	.....	30,000
" " " c.m.7s,cp.	1911	J. & D.	111	....	8,000
" " " 7s. rg.	1911	J. & D.	112½	.....	6,000
" " " cvt.7s,R.C	1893	J. & J.	39	38	13,000
" " C.& I.Co.,Deb 7s, R. C.....	1892	M. & S.	.....	.....	....
& R.C.& I. Co., m. 7s, R. C.....	'92-3	various	55	.....	24,500
*L.Nav.Co.,6s,rg.m.	1884	J & Q.	.....	.....	.....
" " RR., rg. m.	1897	F. & Q.	.....	.....	.....
" " cvt. co. G. R.	1894	M. & S.	.....	.....	.....
" " " Gold R. C.	1897	J. & D.	.....	.....	.....
" " con.m.7s,rg.	1911	J. & D.	.....	.....	....
*P.& N.Y.C.,7s,R.C.	1896 / 1906	J. & D.	.....	.....	.....
*Pa Canal, 6s, cp..	1910	J. & J.	75½	75⅛	13,000
*Schuyl.Nav.,1st m. 6s. rg.....	1897	M. & Q.	.....	.....	.....
*Sus.Coal, 6s, rg...	1911	J. & J.	100	.....	3,000
†Balt.&O. RR., 6s..	1880	J. & J.	.....	.....	.....
" " " " 6s..	1885	A. & O.	.....	.....	.....
Total transactions for the week..					$1,462,855

† Assented.

Gas Stocks.

NEW YORK, Friday Evening, July 25, 1879.

The market for gas stocks is dull and lower, many of the quotations showing a decline of $5 per share for the week.

AUCTION SALES:

Lowell (Mass.) Gas Co.—5 shares, at 146½.
Roxbury (Mass.) Gas Co.—2 shares, at 154¼.
Manhattan Gas Co.—64 shares, at 146.

A company called the Municipal Gas-Light Company, of St. Louis, has applied for permission to lay gas-mains in that city. It apparently intends to manufacture gas by the same process as that used by the Municipal Company of this city. It offers to furnish gas of twenty-four candle-power for $2 per 1000 feet, and to light the city lamps for not over $20 a year each. The price of gas in St. Louis is now $2.50 per 1000 feet, and the city pays $37.50 a year for its street lamps.

The following list of Companies in New York and vicinity is corrected weekly by GEORGE H. PRENTISS, Broker and Dealer in Gas Stocks, No. 24 Broad street, New York

COMPANIES IN NEW YORK AND VICINITY.	Capital Stock.	Par.	DIVIDENDS. Rate per ann.	Am. of last.	Date of last.	QUOTATI'NS Bid.	As'd.
	$		P. ct.				
Mutual, N. Y....	5,000,000	$100	6	1¼	Apr., '79	50	55
" Bonds...	90,000	1,000	6	3½	Feb., '79	100	104
N. York "	4,000,000	.....	8	4	May, '79	85	90
Metrop. "	2,500,000	100	10	5	Feb., '79	110†	115†
" Certfs...	1,000,000	.....	7	3½	Feb., '79	100‡	102‡
Harlem "	1,800,000	50	6	3	Feb., '78	35	45
Manhat. "	4,000,000	50	...‡	5	June, '79	140	150
Brooklyn, Bkln.	2,000,000	50	15	5	May, '79	115	120
Nassau	1,000,000	25	....‡	3	Jan., '79	50	60
" Certfs...	700,000	1,000	7	3½	May, '79	82	90
People's.....	1,000,000	10	....‡	3½	Jan., '79	20	25
" Certfs....	250,000	1,000	7	3½	July, '79	70	75
" Bonds....	375,000	.....	7	3½	May, '79	90	96⅜
Metrop. "	1,000,000	100	5	2½	May, '79	40	50
W'msb'g "	1,000,000	50	8	1½	Apr., '79	70	80
" Certfs...	1,000,000	.....	7	3½	Jan., '79	85	92
Citizens'.....	1,200,000	20	....‡	3	Jan., '79	50	60
" Bonds...	315,000	1,000	.....	3½	Apr., '79	95	100
J. C., N. J..	750,000	20	10	7½	Jan., '79	135	145
Municipal, N.Y.	2,000,000	100	12	3	June, '79	112	119
" Bonds..	750,000	100	7	3	May, '79	105	110
.....	.....	.....	.....	.....	.....	.....	.....

† Ex-dividend August 1st, 1879, 5 per cent. ‡ Ex-dividend August 1st, 1879, 3½ per cent.

Copper and Silver Stocks.

[Reported by WILSON W. FAY & Co., Brokers in Mining and Miscellaneous Stocks, Room 7, Traveler Building, 31 State street.]

BOSTON, Thursday Evening, July 24, 1879.

The market has been steady during the week, with about the usual number of transactions, and shows no signs of an immediate decline.

There is a very fair demand for the copper stocks, and though the "silvers" are not very active, there is no great amount of stock offering, and consequently the prices are holding up very well for this season of the year, and they are easily placed when sales are forced.

There has not been as active a market during the month of July, on mining stocks, for some years, and should next month continue as favorable as the one nearly past, it will be safe to predict an active, rising market in the fall.

Calumet & Hecla has declared its regular quarterly dividend, and holds firm at $1.91@1.92, with sales at $1.91 (ex div.)

Copper Falls has declined rapidly from $2 to $15/8, being influenced by the approaching sale of stock for non-payment of last assessment, and closes steady at 1½@1¾; and is, in all probability, a good purchase at present figures.

Franklin sold at 6½, and closes rather firm at 6¼@6½.

Osceola sold at 14½ (ex div.), and closes quite strong at 14⅛@15¼.

Pewabic remains quiet at 2⅛@2¼.

Quincy is steady at 12⅛@13, with sales at 13.

Ridge is quiet at 1⅛@1¾, with sales at 1½.

Duncan is stronger at 3⅛@3¾, with sales at 3⅛; very little stock being offered on the market.

International has sold at ⅜, and closes quite firm at 40@45c.; and is in fair demand at about 40c.

Silver Islet has been fluctuating between 24 and 25⅛, and closes a trifle weak at 24@24¼.

Sullivan is quiet, there being plenty of stock offering at about $8, and no bids.

Rescue is also quite weak, being offered at $1, and no bid.

Commonwealth continues active at 7@10c. per share, assessment unpaid.

Altar and San Xavier are almost neglected.

Southern Nevada is offered at $2 and closes at 1½@2, with sales at 1¾.

Gold and Silver Stocks.

NEW YORK, Friday Evening, July 25, 1879.

The transactions in this market have been reduced as compared with last week. Quietness during this season of the year is expected, but this dullness has been intensified by the panic which occurred in San Francisco. Those who held stocks most of which are fully paid for have been unwilling to sell at the low prices, while in the uncertainties of the market they are not, as a rule, willing to make purchases at the low prices which prevail. The new bonanza of the north end of the Comstock has proven a fizzle, and the money-lenders, anticipating the crash, called for margins, and the result has been that stocks have been slaughtered right and left. The effect has not been confined to the Comstock stocks, but has been felt equally by the Bodie and other outside districts.

The Bodie stocks have been quiet. In our comments on these, we are guided by advice received this day by mail from an unquestioned and unbiased source.

Bodie has been quiet, the dealings being confined to the last three days, and amount to 400 shares, at $16¾@$13, the last sale to-day being at $15½. The developments at the bottom of the mine continue to disclose as rich ore as at any previous portion of the present remarkably rich strike. The speculation in this stock is in what may be still further developed.

The sales of Standard have amounted to 2367 shares, at $28¾ on Saturday @ $26 to-day. There is nothing in the developments at the mine to warrant this decline. In fact, the mine is looking well, and there are large reserves which warrant the continuance of the present dividends for years.

The sales of Bechtel amount to 350 shares, at $1.80 @$1.50.

The sales of Tioga amount to 510 shares, at $5½@$4. As the management is making a secret of the developments in the mine, and will not let any one down into it, the public should let the stock alone. Outside information at Bodie says that the ore is of too low grade to work at a profit.

The transactions in Bulwer amounted to 260 shares on Wednesday, at $9½@$9¼. This is a very promising mine.

Consolidated Pacific commands a fair amount of attention, the sales amounting to 1895 shares, at $8¼@$7⅛.

Sales of 1500 shares Goodshaw yesterday, at 41c.

Our advices received by mail enable us to say to our readers that they should not touch Maryland Consolidated at a price higher than $1 per share, and we expect to lower our figure with full particulars in a week or two.

As compared with the other stocks, the Comstocks have received very liberal attention.

California has ranged between $5 and $4.80, with sales of 2415 shares.

Consolidated Virginia's highest point was $4.95, and the lowest $4.60, the sales amounting to 2735 shares.

In Yellow Jacket, 50 shares sold to-day at $14.

The dealings in Consolidated Imperial have been greatly reduced, amounting to but 7920 shares, as against about three times as much a few days ago. The price has been quite weak, selling from $1@$1.25.

Ten shares of Julia sold on Tuesday at $3.20.

The sales of Leviathan have been confined to 550 shares at 51@30c.

Sutro Tunnel has been quiet and weak, under the depression in the Comstock stocks. The sales only amount to 2015 shares at $4½@$4¼.

In the mines of the Tuscarora District, we notice a sale of 5 shares of Grand Prize on Saturday, at $3.60.

The sales of Independence amount to 2100 shares, at $2.55@2. This stock is commanding much more attention since it has resumed its dividends.

The transactions in Navajo, although amounting to 3450 shares, were confined to two days, at 40@45c.

On Tuesday and Wednesday, there were sales of Tuscarora amounting to 2200 shares, at 15@14c.

In the Black Hills mines, there has been more activity in Homestake, the sales amounting to 855 shares, at $38@$38¾. Caledonia sold on Wednesday at $3.75, but declined to $3.50 yesterday, the sales amounting to 500 shares.

Great Eastern records 1700 shares sold, at 67@62c. with no transactions during the past two days.

In other mines, we note sales of 40 shares of Eureka, at $16; 190 shares of Ontario, at $40⅝@$41; 100 Mariposa Preferred, at $4½; 525 Quicksilver Preferred, at $40@$39; 200 Common, at $15, and 1100 Tip Top, at 85@75c.

At $3.25, only 100 shares of Hukill have been sold. This company will increase the number of its shares to 200,000, and reduce the par to $5.

Findley has been stronger, with sales of 3400 shares at 51@55c.

Leadville has been quite active, but weak. The sales have amounted to 14,240 shares, at $3.05@$2.45. We publish a report of this company's operations to July 1st. This is interesting as being the first report of a Leadville company given to the public.

Moose has been somewhat quiet, the sales amounting to but 2360 shares, at $3.20@$2.75.

New York & Colorado has ranged between $2.10 and $1.95, with sales of 1600 shares.

Plumas has been more active during the latter part of the week, the sales amounting to 1050 shares, at $3@$2.85. This seems to be a very cheap stock, with the prospects that are reported from the mines. This company has been changing their workings from the upper to the lower tunnel, which has given some delay. Latest advices, however, indicate that all the stamps are now running. Messrs. Bidwell, Wilson & Rogers were to visit both the Plumas and the Green Mountain mines, and they had estimates made of 30 additional stamps for both mines, and Mr. Wilson will lay out plans for another tunnel on the Plumas, at about 400 feet below the present workings. Both mines are reported as looking very well, with large ore-reserves.

Cleveland receives good attention, the sales amounting to 1900 shares, at $3.45@$3.50.

On Tuesday, 100 shares of King's Mountain sold at $1.75.

A liberal business continues in the fancies. We note the following: American Flag, 2500 shares, at 18@22c.; Bertha & Edith, 86,600, at 25@19c.; Buckeye, 11,700, at 53@50c.; Dahlonega, 11,300, at 20@23c.; Gold Placer, 4200, at 17@16c.; Granville, 500, at 22c.; Lacrosse, 1600, at 18@19c.; Luzerne, 14,100, at 25@29c.; and Trio, 2200, at 67@66c.

The product of the Ontario mine, from July 1st to 18th, was $61,933.55; during that time, the mill was closed for ten days for repairs.

The books for the private subscription to the stock of the Calabasas Land and Mining Company will be closed August 2d, at 12 M., and on August 4th the stock will be listed on the New York Mining Stock Exchange.

The Adlaide Company, of Leadville, has raised $40,000, which will enable the company to pay off all its floating indebtedness, and permit the company to continue further operations; $10,000 more bonds are offered.

The following is a type of notices which are going the rounds of the Western press. These articles are probably sent out by an advertising agency as a condition in giving an advertisement of the firm mentioned:

PROFITABLE STOCK INVESTMENTS.

"Before Messrs. Lawrence & Co., the New York bankers, inaugurated the combination system of operating in stocks, it was often very difficult for inexperienced operators, or even old stagers, to deal profitably by their single-handed ventures. Now the field is open to every one for successful operations, and capital in any amount, from $10 to $20,000, can be used with equal proportionate profit. Instead of distracting efforts among many customers, the orders of thousands are concentrated into one vast pool and coöperated for the benefit of all, dividing profits *pro rata* every month. A prominent citizen of San Francisco made $1264.82 from an investment of $300 last month. Other customers are doing better still; $25 pays $125 during the month; $200 returns $1200, or 6 per cent on the stock, and so on as the market moves. New circular contains 'two unerring rules for success,' and full instructions for any one to operate profitably. All the advantages of unlimited capital and careful manipulation are secured by the combination method. Stocks and bonds wanted. Government bonds supplied. Deposits received. Apply to Lawrence & Co., Bankers, 57 Exchange place, New York City."

Our advice to readers is to put their money in other hands, if they must speculate. At all events, before intrusting any funds with them, make inquiries of some well-known Wall-street house as to the firm's standing, and ascertain if our prominent operators adopt those "two unerring rules of success."

"Wild-cats" are becoming more numerous, and are less afraid of the public gaze. This has not been unexpected, and the results of the successful floating of a few of these schemes will give quite a set-back to legitimate mining operations. We have frequently given our readers such advice as should guard them well against any but mines worthy of their attention; but it appears that our efforts must be continuous to prevent them from being victimized. The successful floating of a good mine in a district, or even territory, is the signal for efforts to float ten prospects worth from $1000 to $50,000 at from $50,000 to $500,000. These mines are usually put forward by parties who "would not give any thing for an expert's report—a practical miner's being worth thousands of them." Look out for this class of men.

The fact is, they are afraid to subject their mines to the critical report of a competent expert in high standing, while there are any number of honest (?) miners, who will give a written report to suit the vendors for a very small proportion of the prospective profits to be realized in the sale of the mine. Men identified with good mines in the districts where these "wild cats" originate stand quietly by without advising the public; but when they are exposed, say: "We knew it; but did not want to injure the district by making the exposure." There is but very little foresight shown in such a policy; for it can only be a matter of a short time until the exposure occurs, and by that time the public may have been victimized to such an extent, that all the mines would be put in bad repute and it would be a long time before even the good mines in the same district would be looked upon favorably.

We repeat the advice so often given: Do not touch the stocks of mining companies that will not furnish full reports of the conditions and prospects of the mines by competent, disinterested, reliable experts; and avoid such mines as do not make full statements of production, cost, development, and general condition of the mines at least once a month. The reports should be regular and equally full, be they good or bad. The great trouble with nearly all the mines in which the public is investing is, that they are managed in the interest of the stock operations of the officers.

We have been shown a letter signed by A. G. Brandner, President of the Norris Silver Mining Company, bearing date of July 14th, in which he says: "I have brought suit against the MINING JOURNAL for $25,000 damages for libel." Now, what he may have done we do not know; but at this time, we have had no notice of such a suit having been brought, and we can only say that this looks like a confirmation of the views of our correspondent, as expressed in the JOURNAL of April 5th, 1879.

The Bassick mine, of Rosita, Colo., has been incorporated under the laws of this State, with a capital of $10,000,000, divided into 100,000 shares of the par value of $100 each. The Trustees are Dennis Ryan, Frank G. Brown, W. S. Hoyt, Henry Cummins, and Edmund O. Bassick. F. G. Brown is the President; Dennis Ryan, Vice-President; W. S. Hoyt, Treasurer; and Henry Cummins, Secretary. The offices of the company are at 44 Wall street. A mill, concentration works, and other necessary improvements will be made immediately. No stock is being offered for sale now.

NEW YORK, July 24, 1879.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: In your issue of July 19th you refer to the Maryland Consolidated as a property on which little work is being done, and that by only two men under ground. I would state to you that only two men can work in the shaft at any one time; but we have three shifts of men, working eight hours each. The number of men will be increased as soon as the machinery, now on the way there, arrives. Cross-cuts will be started, and the mines opened in a systematic manner. I inclose te'egram from Wells, Fargo & Co.'s agent at Bodie, which I wish you would insert.

Respectfully yours, J. H. H. WILLIAMS.

"BODIE, CAL., June 25, 1879.

"*To Wells, Fargo & Co., N. Y.:*

"Visited Maryland mines to-day; prospects certainly favorable for valuable property; company has four locations parallel with each other; twelve hundred by fifteen hundred feet of ground to prospect; very favorable locality; ground full of ledges; shaft five by six between timbers, two hundred and fifty feet deep; ledge in shaft thirty inches deep at bottom; width increasing; hundred and twenty tons ore in dump; proper machinery could raise several tons of ore daily; ordinary wood building twenty-five by fifty, inclosing office, stables, whim, etc.

"W. A. ATLEE."

REVIEW OF THE SAN FRANCISCO MARKET.

A generally lower and unsettled market characterizes the position of the San Francisco list. On the assessment account of mines operating on the Pacific Coast, nearly $1,200,000 is payable during the present month, and the promise for future liberal calls in this direction was never better. The Bodie District is also coming into prominence in this line. Nearly all the leading Comstock companies, including the Alta, Alpha, Best & Belcher, Caledonia, Confidence, Consolidated Virginia, Gould & Curry, Hale & Norcross, Occidental, Overman, Segregated Belcher, Sierra Nevada, and Utah, have filed certificates of incorporation and lists of officers in the office of the County Clerk of Storey County, Nevada. This is understood to be preparatory to removal in the event of the carrying into effect of some of the provisions of the new constitution.

The following is per telegraph:

"The Pacific Stock Exchange has taken the same action in this matter as the San Francisco board, and appointed a committee to procure better management of the mines. Injunctions will be soon asked for to prevent the collection of assessments."

"SAN FRANCISCO, July 24.—Judge Wright to-day fixed July 31st as the day for the election of officers and new directors of the Exchequer Mining Company, and August 1st for the election for the Bullion Company."

"The assessments of $1.50 per share each on the Bullion and Exchequer mining stock were rescinded on the 19th inst. The Examining Committees, however, announce their intention of proceeding with investigation."

From the above, it is apparent that the new California Constitution is not without its influence on the Western mining industry. To what extent this influence may extend, and whether it will lead to an increase of interest, or bring San Francisco operators to the East, time alone can determine. We certainly have indisputable evidence that, in its present form, some of its provisions must be detrimental to operations in mining stocks, as heretofore conducted in San Francisco.

SAN FRANCISCO MINING STOCK QUOTATIONS.
Daily Range of Prices for the Week.

NAME OF COMPANY	CLOSING QUOTATIONS. July 18.	July 19.	July 21.	July 22.	July 23.	July 24.	Opening. July 25.
Alpha	25	25	.....	.....	20½	20	20½
Alta	7¾	7⅞	7¾	6¾	6¾	6⅝	6⅞
Argenta	.....	.....	.....	.....	.....	.....	.....
Bechtel	1¾	1⅝	1½	1½	1⅜	1⅜	1¾
Belcher	5	5	§4⅝	4½	4	4¼	3⅞
Belle Isle	.....	.....	.....	.....	.....	.....	.....
Benton	.....	.....	.....	.....	.....	.....	.....
Best & Bel.	17¾	17½	17¼	17	15½	16¼	15½
BlackHawk	.....	.....	.....	.....	.....	.....	.....
Bodie	17½	†16½	17	15¾	13¾	14⅝	15
Booker	.....	.....	.....	.....	.....	.....	.....
Bullion	6	‡5¾	5½	5⅛	5⅛	5	.....
Bulwer	7	7	8	8⅞	7½	8¼	8¼
Caledonia	.....	.....	.....	.....	.....	.....	.....
California	5	4⅞	5	4⅞	4¾	4¾	4¾
Chollar	7	6¾	6½	6⅝	6	6	6
Confidence	11	10½	10½	10½	10½	10¼	.....
Con. Imp	1⅝	1½	1½	1½	1¼	1⅜	1⅜
Con.Pacific	8	7½	8	7¾	6⅞	7	.....
Con.Va	4⅞	4¾	4¾	4⅝	4⅝	4⅝	4⅝
Crown P'int	5	4⅝	4⅝	4½	4	4¼	4¼
Endowm'nt	.....	.....	.....	.....	.....	.....	.....
Eureka Con	15¾	15¾	15	15	15	.....	.....
Exchequer	6	‡6	5½	5⅝	5	5¼	4⅞
Goodshaw	.....	.....	.....	.....	.....	.....	.....
Gould &Cur	10½	10	10	9½	8¼	8⅜	8⅜
Grand Prize	.....	3¾	3⅝	3¾	3⅞	4	.....
Hale & Nor.	14⅜	13¾	13½	13½	12	12⅞	12⅞
Hamburg	.....	.....	.....	.....	.....	.....	.....
Homestake	.....	.....	.....	.....	.....	.....	.....
Hussey	.....	.....	.....	.....	.....	.....	.....
Indep'd'nce	2⅜	2⅛	1⅞	1⅞	1¾	1⅞	1⅞
Jackson	.....	.....	.....	.....	.....	.....	.....
Julia Con	3½	3½	3½	3⅝	3¼	3	3
Justice	5¼	4¾	5	4½	4	4	3¾
Kentuck	4¼	4¼	4	.....	4	.....	.....
Kossuth	.....	.....	.....	.....	.....	.....	.....
Leopard	.....	.....	.....	.....	.....	.....	.....
Leviathan	9-16	½	½	½	7-16	⅜	.....
Manhattan	.....	.....	.....	.....	.....	.....	.....
Mar. White	5¼	5½	6	6	6	6	.....
McClinton	.....	.....	.....	.....	.....	.....	.....
MeadowVal	.....	.....	.....	.....	.....	.....	.....
Mexican	24½	23½	24½	23¼	20¼	21¼	20¾
Mono	10½	9½	8¾	7¾	6⅞	7½	7½
Navajo	.....	.....	.....	.....	.....	.....	.....
North. Belle	4⅞	4⅞	5	4¾	4¾	4⅛	.....
Ophir	35	33¾	33¾	33	30	31½	30¼
Orig. K'ys'e	.....	.....	.....	.....	.....	.....	.....
Overman	9½	9	9	8⅝	8¼	8¼	.....
P. Sheridan	.....	.....	.....	.....	.....	.....	.....
Potosi	5	4¾	4⅝	4⅝	4	4⅝	4¼
Ray. & Ely	4	4	3½	.....	3	3⅝	.....
Richer	.....	.....	.....	.....	.....	.....	.....
Savage	14	13⅜	13⅛	12¾	11¼	12	12
Scorpion	1⅛	1⅛	1¾	1¾	1⅛	1½	.....
Seg.Belcher	.....	.....	21	.....	.....	.....	21
Sierra Nev.	41½	39	40	39	33½	34	32½
Silver Hill	1½	1½	1½	1¼	1¼	1¼	1¼
Silver King	.....	.....	.....	.....	.....	.....	.....
Standard	.....	.....	.....	.....	.....	.....	.....
Summit	.....	.....	.....	.....	.....	.....	.....
Tioga	4¾	4½	4¼	4⅛	3⅜	3¾	3¾
Tip Top	.....	.....	.....	.....	.....	.....	.....
Union Con.	36½	32½	34	33	28	26½	25¼
Utah	17	16¼	16	15½	14½	15½	14
Ward	.....	.....	.....	.....	.....	.....	.....
WashoeCon	.....	.....	.....	.....	.....	.....	.....
Yel. Jacket	14¾	14¼	14¼	14¼	13	14	14

* Opening. † Dividend $1. ‡ Assessment ($1.50) rescinded. § Assessed $1.

Alta shows a slight decline from our last, though our exchanges speak very encouragingly of the prospects of this and the Benton mine. The Briggs mill, below Silver City, is reducing ore from this mine and kept steadily running, there being sufficient ore in the mine and uncovered to supply it for some time to come. The giving way of the ore-house has interfered with the work; not much being taken out. The ore is extracted from the 350 level, and it is thought that this body will continue to the 750 level. Very high assays have been obtained where drifting has been made in the ledge at this point.

Andes sold at from $1.40 to $1 per share. The prospects of this mine are favorable. A little water is encountered on the 350 level, where fine quartz has also been cut.

The face of the 400 level of the Argenta mine looks well. Connection was made with the old works of the Grand Prize on the 450 level. This stock has been selling at $1 to 90c. per share.

The main incline of the Belcher mine has attained a depth of 134 feet on the slope below the 2760 station, and is still sinking at the rate of 3 feet per day. This stock is lower.

The Belle Isle Company's different ore-stopes are looking well; the mill is running and the shipments are increasing, the ore now being worked assaying

GENERAL MINING STOCKS.

Dividend Paying Mines.

NAME AND LOCATION OF COMPANY.		Feet on Vein.	Capital Stock.	SHARES. No.	SHARES. Par Val	ASSESSMENTS. Total levied to date.	ASSESSMENTS. Date and amount per share of last.			DIVIDENDS. Total paid to date.	DIVIDENDS. Last Dividend.			HIGHEST AND LOWEST PRICES PER SHARE AT WHICH SALES WERE MADE. July 18. H.	July 18. L.	July 21. H.	July 21. L.	July 22. H.	July 22. L.	July 23. H.	July 23. L.	July 24. H.	July 24. L.	July 25. H.	July 25. L.	SALES.
Augusta	Nev.	1,500		100,000		20,000				25,000	July	1879	25													
Belle Isle	Nev.	1,500		100,000		200,000				30,000	July	1879	30													
Belcher, G. S.	Nev.	1,040	10,400,000	104,000	100	1,500,200	May.	1879	1 00	15,397,200	Apr.	1876	1 00													
Bobtail, G	Col.	2,500	1,136,630	227,326	5	*				90,930	Nov.	1878	15													
Bobtail Tunnel, G	Col.		100,000	20,000	5	52,000	July	1873	0 30	56,000	Dec.	1878	40													
Bodie, G	Cal.		10,000,000	10,000	100	75,000	May.	1879	1 00	900,000	July	1879	1 00													
California, G. S.	Nev.	600	54,000,000	540,000	100					39,510,000	May.	1879	50	4.95	4.90	4.95	4.90	5	4.95	4.90	4.80	4.90	4.85	4.95	4.85	2,415
Calumet & Hecla, C	Mch		2,000,000	80,000	25	1,200,000				14,250,000	May.	1879	5 00					190¼		190½		191¼	190½			24
Caribou Con	Col.	1,400	1,000,000	100,000	10					20,000	July.	1879	1													
Central, C	Mch		500,000	20,000	25	100,000	June	1862	0 65	1,340,000	Feb.	1879	4 00													
Cholar, G. S.	Nev.	700	11,100,000	112,000	100	1,750,000	Sept.	1878	5 00	3,060,000	Feb.	1872	1 00													
Copper Falls, C	Mch		1,000,000	20,000	50					100,000	Nov.	1871	1 00													
Cons. Virginia, G. S.	Nev.	710	54,000,000	540,000	100	474,600	June	1873	3 00	41,040,000	May.	1879	50	4.95	4.85	4.85	4.70	4.85	4.75	4.80	4.60	4.60	4.75	4.70	4.65	2,755
Confidence, G. S.	Nev.	130	2,496,000	24,960	100	256,320	Apr.	1878	0 50	78,000	May.	1865	8½													
Crown Point, G. S.	Nev.	600	10,000,000	100,000	100	2,173,370	Dec.	1878	1 00	11,588,000	Jan.	1875	2 00													
Eureka Cons., G. S. L.	Nev.		5,000,000	50,000	100	100,000	May.	1876	1 00	4,000,000	July.	1879	1 00					16		16		16		16		40
Findley, G	Geo.		200,000	200,000	1					8,000	May.	1879	1c	51				52		52	51	52		55	52	3,400
Franklin, C	Mch		500,000	20,000	25	380,000	June	1876	5 00	585,000	Nov.	1871	1 00													100
Gould &Curry, G. S.	Nev.	612	10,800,000	108,000	100	3,044,000	July.	1879	1 00	3,826,800	Oct.	1870	10 00													
Grand Prize	Nev.	1,500		100,000		100,000	July.	1878	1 00	400,000	Feb.	1878	1 00	3.60												5
Hale & Norcross, G. S.	Nev.	400	11,200,000	112,000	100	3,082,000	Mar.	1879	1 00	1,598,000	Apr.	1871	5 00													
Homestake, G	Dak		10,000,000	100,000	100	200,000	Apr.	1878	1 00	210,000	July	1879	30	38		38		38¼	38¼	38¾	38¾			38¾	38¼	855
Hukill, G. S.	Col.	3,288	1,000,000	100,000	10	*					Dec.	1878	0 10	3.25												100
Independence	Nev.	1,500		100,000		75,000	Feb.	1878	15	150,000	Nov.	1878	25	2.55	2.40	2.45	2.40	2.15		2.15	2.05	2.05	2	2.10		2,100
Kentuck, G. S.	Nev.	95	3,000,000	30,000	100	300,000	Aug.	1878	1 00	1,252,000	Mar.	1870	5 00													
K. K. Cons.	Nev.			50,000		30,000	Jan.	1879	1 00	50,000	Sept.	1873	0 25													
Leadville	Col.		2,000,000	*						60,000	June	1879	10	3.05	2.75	2.90	2.75	2.75	2.55	2.70	2.45	2.60	255	2.90	2.60	14240
Leeds	Uth.	3,000		60,000						78,000	Oct.	1878	0 13													
Leopard, L. G. S.	Nev	1,500	5,000,000	50,000	100	225,000	Mar.	1879	50	162,500	Dec.	1876	0 50													
Little Pittsburg	Col.		20,000,000	200,000	100					800,000	July.	1879	50													
Manhattan	Nev			10,000		50,000	July.	1879	1 00	400,000	Feb.	1877	1 00													
Martin White	Nev			100,000		650,000	Dec.	1878	1 00																	
Merrimac, S	Mas	1,500	500,000	100,000	5	*	June			120,000	Mar.															
Minesota, C	Mch.		1,000,000	20,000	50	436,000		1869	1 00	1,820,000	Mar.	1876	0 50													
Modoc	Cal.	4,000		100,000		450,000	Feb.	1879	0 50	50,000	Dec.	1876	0 50													
Moose	Col.	39,000	2,000,000	200,000	10	*				550,000	Mar.	1878	0 25	3.20	2.95	3.00	2.95	2.75		2.80		3.00				2,360
National, C	Mch.		500,000	20,000	25	195,000	Oct.	1875	1 00	360,000	Oct.	1873	1 00													
N. Y. & Colorado, G	Col.		1,000,000	50,000	20	*				20,000	Mar.	1877	0 20	2.10				2.10	1.95	2.05	1.95	2.00	1.95	2.00		1,600
Northern Belle, S	Nev.	1,600	5,000,000	50,000	100					1,425,000	Feb.	1878	1 00													
Ontario	Uth.	3,000	10,000,000	100,000	100					2,200,000	June	1879	50	40¾		41						40⅜		41		190
Ophir, G. S.	Nev.	675	10,080,000	100,800	100	3,436,800	Nov.	1878	1 00	1,394,400	Mar.	1864	4 00													
Osceola, C	Mch.		1,000,000	40,000	25	880,000	Mar.	1876	2 00		July.	1879	1 50			16½						14½				76
Pewable, C	Mch.		500,000	20,000	25	185,000	June	1868	3 00	460,000	July	1873	1 00													
Potosi, G. S	Nev	700	11,000,000	112,000	100					$																
Phœnix, C	Mch.		1,000,000	20,000	50	817,500	Sept.	1870	3 00	10,000	Dec.	1876	1 00													
Plumas	Cal.		1,000,000	100,000	10					151,000	July	1879	8							2.90		3	2.85	2.95	2.90	1,050
Quincy, C	Mch.		2,000,000	20,000	100					2,230,000	Feb.	1878	5 00													
Raymond & Ely, G. S.	Nev.	5,000	3,000,000	30,000	100	800,000	Apr.	1879	1 00	3,075,000	Sept.	1873	3 00													
Ridge, C	Mch.		500,000	20,000	25	200,000				90,000	Feb.	1875	1 00													
Rye Patch	Nev.	1,600		30,000		157,500	Dec.	1878	1 00	105,000	Dec.	1877	0 25													
St. Joseph, L	Mo.	2,000 acs.	1,000,000	100,000	10					250,000																
Savage, G. S.	Nev.	800	11,200,000	112,000	100	4,196,500	July.	1879	1 00	4,460,000	June	1869	3 00													
Seaton, G. S.	Col.	1,700	500,000	50,000	10						May	1877	0 10													
Sierra Nevada, G. S.	Nev.	3,650	10,000,000	100,000	100	2,550,000	Apr.	1879	2 00	102,000	Jan.	1871	1 00													
Silver Islet	Mch													24¼								25½	24			32
Silver King	Ariz	1,500	10,000,000	100,000	100					450,000	Nov.	1878	0 50													
Standard	Cal.		10,000,000	100,000	100	50,000	July	1878	1 00	1,200,000	July	1879	0 50	28¾	28	28	27½	28		28		27¼	26¼	26¾	26	2,367
Yellow Jacket, G. S.	Nev.	1,200	12,000,000	120,000	100	4,038,000	Apr.	1879	1 00	2,184,000	Aug.	1871	2 50				1.90							14		50
McClinton	Cal.	1,000		60,000		60,000	May.	1879	0 25																	

Non-Dividend Mines.

Allouez, C	Mch.		1,000,000	20,000	50	940,000	May	1876	5 00																	
Alpha, G. S.	Nev.	306	3,000,000	30,000	100	240,000	Mar.	1878	1 00																	
Alta	Nev.	600		108,000		1,101,000	Feb.	1879	1 00																	
Am. Flag, G	Col.	5,300	600,000	60,000	10	*								20c	18c					22c				20c		2,500
Andes	Nev.	2,000		100,000		380 000	May.	1879	0 25																	
Baltimore Cons	Nev.	1,050		84,000		1,015,000	Apr.	1878	0 50																	
Benton	Nev.	600		108,000		91,800	Dec.	1873	0 50																	
Bechtel	Cal.			60,000		90,000	Apr.	1879	0 25							1.80				1.55	1.50	1.50				350
Belvidere	Cal.	1,500		60,000		33,000	Feb.	1879	0 20																	
Bertha & Edith, G	Vir.	645 acs.	500,000	500,000	10	*								25c	19c	22c	19c	22c	20c	22c	21c	22c	21c	22c	21c	86,600
Best & Belcher, G. S.	Nev.	545	10,080,000	100,800	100	639,390	Apr.	1879	1 00																	
Buckeye	Col.		2,000,000	400,000	5	*								53c	50c	53c	50c	53c	50c	53c	50c	51c	50c	51c		11,700
Bullion, G. S.	Nev.	943½	10,000,000	100,000	100	3,102,000	May.	1879	1 00																	
Bulwer	Cal.		10,000,000	100,000	100		July.	1879	1 50											9½	9¼					200
Cal., B. H	Cal.		10,000,000	100,000	100	55,000	Feb.	1879	0 25											3.75		3.55	3.50			500
Caledonia	Dak.	2,188	10,000,000	100,000	100	1,640,000	Apr.	1879	0 50																	
Cashier	Col.		500,000	250,000	2	*																				
Challenge	Nev.	90		50,000		10,000	Nov.	1878	0 20																	
Cleveland, G	Col.	3,715	250,000	25,000	10									3.50		3.50	3.45	3.50	3.45	3.50	3.45	3.50	3.45	3.50	3.45	1,900
Cons. Imperial, G. S.	Nev.	468	50,000,000	500,000	100	875,000	Feb.	1879	0 20					1.60		1.60	1.50	1.55		1.55	1.45	1.50	1.25	1.40	1.35	7,920
Con. Pacific	Cal.	1,400	600,000	60,000	100	*								8½	7⅞	7⅞	7⅛	8		7⅞	7¼	7	6⅞	7⅜	7⅛	1,895
Dahlonega	Ga.		250,000	250,000	1											20c		22c	21c	23c	21c	22c	21c	21c		11,300
Dana, C	Mch.		500,000	20,000	25	68,000	Jan.	1863	0 50																	
Day	Nev.	1,500	10,000,000	100,000	100	70,000	Feb.	1879	0 15																	
Dayton	Nev.	1,800	10,000,000	100,000	100	750,000	Apr.	1878	0 25																	
De Frees	Ariz	1,500	10,000,000	100,000	100	140,000	May.	1879	15																	
Duncan, S	Ont.		1,200,000	60,000	20	75,000	July	1876	41⅔																	
Exchequer, G. S	Nev.	400	10,000,000	100,000	100	480,000	July.	1879	1 50																	
Gold Placer, G	Col.		5,000,000	200,000	25									17c		17c	16c							17c	16c	4,200
Goodshaw	Cal.		10,000,000	100,000	100	30,000	Apr.	1879	0 10													41c				1,500
Granville, G	N. C.	1,231 acs.	300,000	300,000	1	*																22c				500
Great Eastern		1,200	300,000	300,000	100									67c		65c	62c	62c		62c						1,700
Humboldt, C	Mch.		500,000	20,000	25	100,000	Sept	1878	0 15																	
Hussey	Nev.	4,500	10,000,000	100,000	100	125,000	May.	1879	0 15																	
International, S	Ont.		1,200,000	60,000	20																					400
Julia, G. S.	Nev.	3,000	11,000,000	110,000	100	872,500	July.	1879	1 25									3.20								10
Justice, G. S.	Nev.	2,100	10,500,000	105,000	100	2,883,500	May.	1879	1 00																	
King's Mountain, G	N. C.		1,200,000	120,000	10	*												1.75								100
Kossuth	Nev.	2,700	10,700,000	108,000	100	421,200	Aug.	1877	0 15																	
Lacrosse	Col.	3,000	1,000,000	100,000	10	*												19c		19c	18c					1,600
Leviathan	Nev.	2,000	10,000,000	100,000		265,000	Mar.	1879	25																	
Luzerne	Col.	4,200	5,000,000	500,000	10	*								51c										40c	30c	550
Madison, C	Mch.		500,000	20,000	25	123,000	Sept	1876	0 10					26c	25c	27c	26c	28c	26c	28c	27c	28c		29c	28c	14,100
Mariposa preferred	Cal.	44,387	5,000,000	50,000	100	1,425,000	June	1877	1 00																	
" common	Cal.	acres.	10,000,000	100,000	100	1,425,000	June	1878	1 00																	
May Belle		1,500	10,000,000	100,000	100																	4½				100
McCracken	Ariz	4,500	10,000,000	100,000	100	100,000	Oct	1878	0 50																	
Mexican, G. S.	Nev.	600	10,080,000	100,800	100	318,200	July.	1879	2 00																	
Mono	Cal.	750	5,000,000	50,000	100	75,000	Mch.	1879	0 50																	
Navajo	Nev.	1,500	10,000,000	100,000	100	145,000	Feb.	1879	0 20																	
New York	Nev.	1,000	10,000,000	100,000	100	80,000	Apr.	1879	0 40																	
Orig. Keystone	Nev.	1,500	10,000,000	100,000	100	105,000	Jan.	1879	0 50																	
Overman, G. S.	Nev.	1,200	3,840,000	38,400	100	3,404,280	Mar.	1879	3 00																	
Petherick, C	Mch.		500,000	20,000	100	165,533		1876	0 50																	
Quicksilver preferred	Cal.	8,500	4,291,300	42,913	100	*								40	39⅞	15				39⅞	39	39				525
" common	Cal.	acres.	5,708,700	57,087	100	*	Apr.																			200
Seg. Belcher, G. S.	Nev.	160	640,000	6,400	100	244,800	Apr.	1876	1 00																	10
Silver Hill, G. S.	Nev.	5,400	10,800,000	108,000	100	1,404,000	Feb	1879	0 50																	
Silver Prize	Uth.	1,500	10,000,000	100,000	100	65,000	Mar	1879	0 25																	
Star, C	Mch.		500,000	20,000	25	265,000	Mar	1876	0 50																	
Superior, C	Mch.		500,000	20,000	25	340,000		1878	0 25																	
Sutro Tunnel	Nev.		20,000,000	2,000,000	10		July		0 50																	2,015
Tiptop	Ariz		10,000,000	100,000	100	120,000	Apr.	1878	0 50					85c		80c	75c							80c		1,100
Tioga	Cal.	1,500	10,000,000	100,000	100	80,000		1879	0 20							5½	5¼	5¼		4¾		4.15		4.75	4.05	810
Trio	Col.	1,250	150,000	150,000	1	*	Apr.							67c				67c		67c		67c	66c			2,200
Trojan	Nev.	1,500	10,000,000	100,000	100	265,000	Mar.	1879	0 25																	
Tuscarora	Nev.		10,000,000	100,000	100	25,000	Jun.	1879	0 05									15c	14c	14c						2,200
Union Cons. G. S.	Nev		10,000,000	100,000	100	660,000	Apr.	1879	2 00																	
Utah	Nev	1,000	2,000,000	20,000	100	830,000	Jan.	1879	2 50																	
Ward	Nev	1,200	11,000,000	110,000	100	99,000	Apr.	1879	0 30																	
Wells Fargo	Nev	1,500	10,000,000	108,000	100	243,000		1879	0 25																	

G. Gold. S. Silver. L. Lead. C. Copper. * Non-Assessable.

Total Assessment levied to date $66,663,413
Total Dividends paid to date $155,318,330
Total Shares sold during the week 207,54

very high. This company carries quite a handsome surplus from the dividend recently declared. This stock is selling in large amounts in San Francisco, at $2.40@$2.75 per share.

Belmont is selling in San Francisco at 40@50c. per share. The outlook is favorable. The cross-cut west, 400 level, shows some very fine ore.

Best & Belcher opens to-day at $15½, against $17½ a week ago. All the work done in this mine is being done jointly with the Gould & Curry Co. At the recent annual meeting of the company, the Secretary's statement showed that the company owes $20,000. Total assessments levied during the year amounted to $201,150, and the total expenditures, $253,888.47.

Bodie opens at a slight improvement on the quotations of the last few days, but a material decline from our last. On the 23d inst., the stock touched $11¾, but has since recovered, the opening price to-day showing an improvement of $3¼.

Work has been resumed in the Bullion mine. The accumulations during the fire have been removed, and sinking on the 2150 level has been resumed.

Bulwer is well maintained, opening to-day at $8¼, against $8 a week ago. This stock is one of the steadiest on the list. The southeast cross-cut, 380 level, is in 100 feet. The ledge is 3 feet wide, in very good ore.

We have no quotations of the Caledonia. Recent sales were made at $2.15 per share.

Chollar opens at $6, against $6⅜ last week. The combination shaft has been cleared of water, and found to have received very little injury from the flooded mines, although 720 feet of water were in the mine for 3 months.

Confidence is lower, closing at $10¼, against $11¼ last week.

No material change in the quotations of Consolidated Imperial. Stock has been very steady during the week.

Consolidated Pacific is lower, closing at $7, against $8 last week. The new hoisting-engine is completed, and is said to be the largest in the district.

Crown Point opened at $4¼, against $4⅛ last week. It is thought that the south drift of the 2600 level will soon connect with the 2660 level of the Belcher, when cross-cutting will be commenced.

The old bonanzas have been quite steady during the operations of the week, and show but little change compared with the prices ruling a week ago. The face of the west cross-cut on the 850 level of the California mine is penetrating vein-matter carrying quartz. The south drift, 2150 level, of Con. Virginia is in 270 feet, and looks well.

Eureka Consolidated stock has been steady during the week, sales having been made at $15, a decline from previous quotations.

Exchequer is lower, opening at $4⅞, against $6⅜ a week ago, a decline of nearly $2 per share. The assessment levied by this company on the 19th inst. of $1.50 per share has been rescinded.

Gould & Curry shows a decline of $2 per share. Active work is going forward in all parts of this mine.

Grand Prize closed at $4 yesterday, same as last week. Active operations are going forward.

Hale & Norcross also shows a decline. The Combination shaft is now ready to receive water from this mine, through the Lightning drift, 2000 level.

Hamburg has been quite active at 50c. to 70c. per share. There is no change in the appearance of this mine.

Hillside has been selling at $1.50@$1.70 per share. This company's furnace started on the 9th inst., and is running well.

Operations have been suspended on the 500 level of the Hussey mine, and this company is now making arrangements with the Leopard to work through their shaft from the 800 level of the latter mine. This stock is selling in San Francisco at 25 to 50 cents per share.

Independence opens at $1⅞, against $2⅝ a week ago. Ore-stopes continue to produce, and the mine looks well generally.

Julia is a little weaker, but shows no very marked change. The extreme heat of this mine materially retards the progress. The winze, 1800 level, is making fair progress, and every thing else looks well.

A decided decline is noted in the stock of the Justice Mining Company. The opening quotations were $3¾, against $5¼ a week ago.

Leviathan closed yesterday at 37½c. per share, a decline of nearly 50 per cent. The same *favorable indications* noted for several weeks past continue to be observed in the letters and reports so freely published regarding this mine.

Martin White is well maintained at a slight advance, closing at $6.

Mexican and Ophir show a decline of $5 per share each, the former opening at $20¾ and the latter at $30¼, which are decidedly the lowest prices for the week, and the lowest recorded for some time past. The water in the joint Ophir winze from the 2100 level in the Mexican mine interferes with sinking. The ore found at the bottom of the incline assays as high as $50 per ton, and ore taken from the 2300 level has assayed as high as $89 per ton.

Mono opens at $7½, against $11 a week ago.

The 250 and 150 level stopes of the Navajo mine still continue to produce the usual supply of good milling ore. Late sales were made at 35 to 50 cents per share, and more recent transactions at 45 cents.

Northern Belle is fairly maintained, closing yesterday at $4⅛, against $4⅞ a week ago.

Overman closed at $8¼ yesterday, a decline of $1½ per share. At the recent annual meeting of this company, the report showed that the disbursements for the year amounted to $424,604. Receipts, including two assessments, $224,694; and $148,790 additional was derived from the sale of pumping machinery.

Recent transactions in the stock of the Phœnix mine of the Eureka District have been made at $3 per share. The outlook in this mine is said to be of the most encouraging character. A large quantity of good milling ore is being found between the fourth and fifth levels. It is said that about 4000 tons are in sight which will assay from $42 to $98 per ton, gold and silver, and a heavy percentage of lead.

Potosi is a little lower.

Raymond & Ely shows a slight decline. Nothing of interest to note from this mine.

Savage opens at $12—quite a decline from last prices. The water in this mine stands 35 feet below the 2000 level, and it is thought that the lower levels will soon be drained.

Sierra Nevada opens at a marked decline, a difference of nearly $10 per share being shown between the price of to-day and that quoted a week ago. Union Consolidated shows even a greater difference, opening at $25¼, against $36¼ last week. Little progress has been made in the Sierra Nevada mine, owing to the trouble with the water floods, making it imprudent to renew stoping. The donkey pumps above the 2300 station gave way, and let the steaming water flow from the 2200 level into the incline. Active operations are going forward in both these mines, and it is probable that a large amount of pumping will have to be done before the public will receive the benefits of the bonanzas said to exist in them.

We have no quotation of Tip Top. The stock has been fairly active in San Francisco recently at $1.10 @80c. per share. This mine is looking and yielding well, the present output being at the rate of $35,000 per month. The bottom of the main shaft is down 400 feet in high-grade ore. One hundred and twenty-five men are now employed by this company.

The tunnel of the Tuscarora mine is now in 80 feet. In the face of the tunnel on the hanging-wall side, there is about 1½ feet of chloride ore, and on the foot-wall 8 inches of a higher grade. This stock is almost neglected on the San Francisco market, late sales having been made at 15c. per share.

Utah, in sympathy with the market, is also lower. There is nothing of special interest from the mine.

Yellow Jacket is down $1.50 per share. The new shaft is penetrating hard blasting rock, the bottom 2675 feet below the surface, and being continued on down. Preparations to sink the north winze to the 2700 level are still goin g on.

The *Commercial Herald* says of the market:

"We have to report a variable mining-stock market for the week under review, with a tendency toward better prices from opening rates in the mines located at the north end of the Comstock, while in other directions on the same lode a very unsatisfactory state of affairs exists—that is, the prospects of an advance seem to be more distant than ever, judging from the apathetic feeling that now prevails. The tunnel does its work quietly; but, so far, the facilities that it has afforded for drainage have not given the results anticipated—that is, a very gradual but quite marked advance in the stocks at and about the point of intersection of the lode; however, there is yet ample time for a good and prosperous showing, and we certainly hope it may so result. The large crop of assessments levied at this date may have something to do with the present condition of the market; for it will be noticed that the string is unusually long, in a number of cases the amounts being quite large. If a desire existed just now to lift the market, we should think this would be avoided as much as possible."

The annual meetings of the following companies have been called for the dates given below, namely:

Lady Washington Mining Company	July 30
Benton Mining Co	" 30

Mining Assessments Delinquent in July.—We are indebted to the San Francisco *Stock Report*, of the 15th inst., for the following list of the mining assessments delinquent at the respective offices this month, so far as made public:

Name.	Per share.	Amount.	Del. July.
Alta	$1.00	$108,000	17
Adams Hill Consolidated	10	5,000	1
Armand	10	10,000	28
Ajax	10	5,000	14
Armstrong	5	5,000	14
Bunker Hill	10	5,000	15
Commonwealth	25	12,500	31
Crœsus	5	2,500	21
Crown Point	1.00	100,000	11
Dudley	25	16,000	16
Excelsior Deep Gravel	15	7,500	7
Giant & Old Abe	50	50,000	15
Hartford	50	25,000	21
Hussey Consolidated	15	15,000	1
Ida	25	15,000	1
Leo	50	25,000	18
Leopard	50	25,000	15
May Flower	10	5,000	22
Mono	50	25,000	28
North Comstock	5	5,000	2
North Noonday	25	15,000	14
Oriental Consolidated	25	12,500	25
Real del Monte	1.00	50,000	19
Sierra Nevada	3.00	300,000	10
Silver Jacket	10	10,000	7
Star	20	20,000	15
Steep Hollow	30	3,000	29
Summit	50	25,000	10
Swansea	10	10,000	21
Tellurium	10	5,000	5
Tioga Consolidated	25	25,000	21
University	10	10,000	14
Union Consolidated	2.00	200,000	7
Victor Mill	60	30,000	31
West Side	10	10,000	8

The above list contains 35 claims, of which 15 are in Nevada, 19 in California, and one in Dakota. There may be others delinquent this month; but these are the only ones that have come under our notice. The above is the initial assessment of the Armand in Del Norte County, Armstrong in Butte County, Bunker Hill in Sierra County, Commonwealth in Elko County, Giant & Old Abe in Lawrence County (Dakota), Swansea in Inyo County, Crœsus and Ida in Mono County, and North Comstock, Silver Jacket, and West Side in Storey County. In a few cases, the total amount of the assessment is estimated, in the absence of information of the number of shares involved. The money to be collected will be apportioned as follows:

Nevada:		
Storey County	$748,000	
Esmeralda	80,000	
Elko	52,500	
White Pine	20,000	
Nye	10,000	
Eureka	5,000	
		$915,500
California:		
Mono County	$138,500	
Inyo	35,000	
Sierra	17,500	
Placer	12,500	
Del Norte	10,000	
Amador	5,000	
Butte	5,000	
Nevada	3,000	
		$226,500
Dakota:		
Lawrence County	50,000	$50,000
Totals	$1,192,000	$1,192,000

For the corresponding month last year, 30 assessments became delinquent, amounting to $915,000.

ASSESSMENTS, with dates when delinquent: Goodshaw, 25c., August 23d; Belvidere, 25c., August 11th; Trojan, 25c., August 18th; Gould & Curry, $1, August 14th; Silver Hill, 50c., August 14th; Queen Bee, 10c., August 13th; Curtis Con. Mining Co., 10c., August 11th; Bay Silver Mining Co., 10c., August 13th; Sherwood Con. Mining Co., 25c., August 12th; William Penn, 5c., August 13th.

NEW INCORPORATIONS.

Gotham G. and S. Mg. Co	Cal	....	$10,000,000
Continental G. Mg. Co	"	....	10,000,000
Last Chance Mg. Co	"	....	6,000,000
Chambers Mg. and Smelting Co	Colo	....	100,000
Carbonate Hill Con. Mg. Co	"	....	4,000,000
Whisky Slide Mill and Mg. Co	Cal	....	10,000,000
Essex G. and S. Mg. Co	"	....	10,000,000
North Union S. Mg. Co	Nev	....	1,000,000
Boston Con. Mg. Co	Cal	....	10,000,000
Mountain Boy Mg. Co	Colo	....	1,000,000
Geneva Con. Mg. and S. Mg. Co	"	....	2,500,000
Antelope Mg. Co	Cal	....	10,000,000
I. & K. Mg. Co	"	....	10,000,000
Noonday Mill and Mg. Co	"	....	10,000,000
North Noonday Mill and Mg. Co	"	....	10,000,000
South Noonday Mill and Mg. Co	"	....	10,000,000
Storm Cloud Con. Mg. Co	"	....	10,000,000
J. and K. Gold Mg. Co	"	....	10,000,000
Uncle Sam Mg. Co	"	....	10,000,000
Inez Mg. Co	Colo	....	1,000,000
Astor Mg. and Milling Co	"	....	500,000
California & Nevada M. and M. Co	Cal	....	10,000,000
Centennial G. Mg. Co	"	....	10,000,000
Riverside M. and M. Co	Ariz	....	1,000,000
Conquest M. and M. Co	Nev	....	1,000,000
Elgin M. and S. Co	Colo	....	.....
Last Glimmer Mg. Co	Cal	....	10,000,000
Twin Lakes M. and S. Co	Colo	....	100,000
Keystone Hydraulic Mg. Co	"	....	400,000
Wyandotte Silver Mining Co	Nev	....	10,000,000
Bates-Hunter Con. S. Mg. Co	Colo	....	1,000,000
Sacramento M. and M. Co	Cal	....	50,000
Betty O'Neal Mg. Co	Nev	....	6,000,000
Bird's-eye Placer & Mg. Co	Colo	....	500,000
Frazier G. Mg. Co	Cal	....	10,000,000
Union and Kentuck M. and M. Co	"	....	10,000,000
Argonaut M. and M. Co	"	....	2,000,000
Santa Anna M. and M. Co	"	....	3,000,000
Indicator Mg. Co	"	....	5,000,000
Fly Creek G. Mg. Co	"	....	60,000
Central G. Mg. Co	"	....	1,000,000
Clarendon G. and S. Mining Co	"	....	10,000,000
Mount Sneffles Mg. and Reduction Co	Colo	....	1,000,000
Orleans Con. Mg. Co	"	....	10,000,000
La Plata Mg. and Smelting Co	"	....	2000,000